



Government of Bengal

Fourteenth Triennial Report on
Vaccination in Bengal

For the Years
1926-27, 1927-28 and 1928-29

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1930

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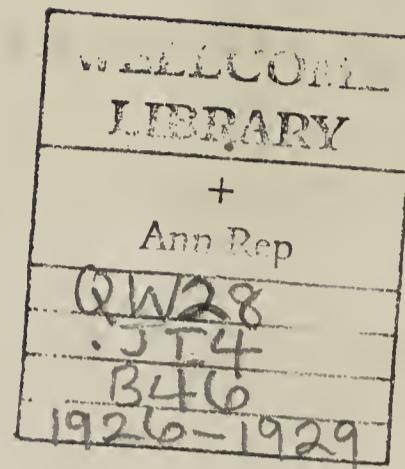
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BENGAL PUBLIC HEALTH DEPARTMENT.

No. 852 V.

FROM

DR. C. A. BENTLEY, C.I.E., M.B., D.P.H., D.T.M. & H.,
Director of Public Health, Bengal,

TO

THE SECRETARY TO THE GOVERNMENT OF BENGAL,
LOCAL SELF-GOVERNMENT DEPARTMENT.

Calcutta, the 25th January 1930.

SIR,

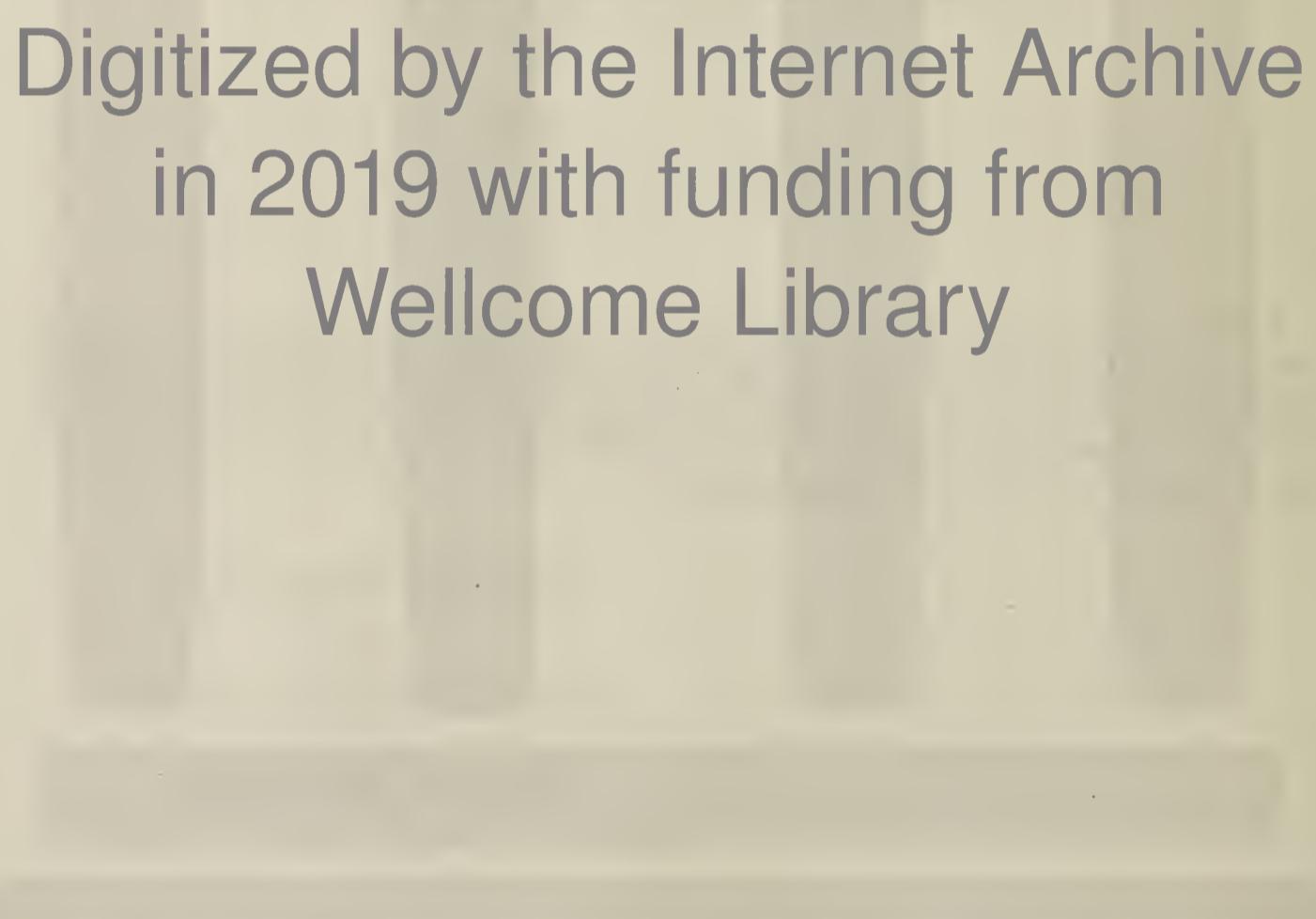
I have the honour to submit for the information of the Government of Bengal the Provincial Report on Vaccination for the triennium 1926-27 to 1928-29 including the statistical vaccination returns for the year 1928-29 by Dr. Sufi, Assistant Director of Public Health in charge of Vaccination in the Bengal Public Health Department.

I have the honour to be,

SIR,

Your most obedient servant,

CHAS. A. BENTLEY,
Director of Public Health, Bengal.



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Fourteenth Triennial Report on Vaccination in Bengal for the years 1926-27, 1927-28 and 1928-29.

I have the honour to submit the following Report on Vaccination in Bengal for the triennium ended with 1928-29.

I was in charge of the Vaccination and Vital Statistics Bureau throughout the triennium.

2. Strength of Staff.—The following table shows the strength of the staff in the rural and urban areas of the province during the triennial period under review:—

| Classes. | 1926-27. | 1927-28. | 1928-29. | Total. | Average. | Average of the previous triennium. |
|---|----------|----------|----------|--------|----------|------------------------------------|
| <i>(a) Rural areas.</i> | | | | | | |
| Vaccination Inspectors and Sub-Inspectors* .. | 143 | 125 | 131 | 399 | 133 | 129 |
| Vaccinators .. | 1,596 | 1,535 | 1,832 | 4,963 | 1,654 | 1,495 |
| <i>(b) Mafassal municipalities.</i> | | | | | | |
| Vaccination Inspecting Officers .. | 2 | 5 | 2 | 9 | 3 | 5 |
| Vaccinators .. | 144 | 157 | 154 | 455 | 152 | 147 |
| <i>(c) Calcutta.</i> | | | | | | |
| Inspecting Officers .. | 16 | 16 | 18 | 50 | 17 | 16 |
| Vaccinators .. | 58 | 58 | 60 | 176 | 59 | 55 |

* Excluding officers of the rural public health organization.

3. General Vaccination Statistics.—The statement below shows the work done in the province during the period under review:—

| Headings. | Present triennium. | | | | Average of the previous triennium. | Increase + or decrease -. | Percentage of increase + or decrease -. |
|---|--------------------|-----------|-----------|-----------|------------------------------------|---------------------------|---|
| | 1926-27. | 1927-28. | 1928-29. | Average. | | | |
| Total number of persons vaccinated | 3,276,975 | 3,969,367 | 5,276,404 | 4,174,249 | 2,581,364 | +1,592,885 | +61.7 |
| Total number of vaccinations performed. | 3,278,581 | 3,975,837 | 5,281,419 | 4,178,612 | 2,583,623 | +1,594,989 | +61.7 |
| (a) Primary Vaccinations .. | 1,741,801 | 1,928,674 | 2,052,217 | 1,907,564 | 1,665,623 | +241,941 | +14.5 |
| Successful .. | 1,657,657 | 1,814,715 | 1,896,877 | 1,789,750 | 1,602,006 | +187,744 | +11.7 |
| (b) Revaccinations .. | 1,536,780 | 2,047,163 | 3,229,202 | 2,271,048 | 918,000 | +1,353,048 | +147.4 |
| Successful .. | 800,543 | 1,092,249 | 1,833,310 | 1,242,034 | 492,343 | +749,691 | +152.3 |
| Average number of persons vaccinated by each vaccinator .. | 1,761 | 2,145 | 2,579 | 2,162 | 1,464 | +698 | +47.7 |
| Percentage of successful cases in which results were known— | | | | | | | |
| (a) Primary .. | 95.1 | 94.1 | 92.9 | 94.0 | 96.1 | -2.1 | .. |
| (b) Revaccinations .. | 52.09 | 53.3 | 56.5 | 53.9 | 53.9 | ±0 | .. |
| Ratio of successful vaccinations per mille of population .. | 52.8 | 62.2 | 79.7 | 64.9 | 44.8 | +20.1 | +44 |
| Number of children successfully vaccinated— | | | | | | | |
| (a) Under one year .. | 274,398 | 281,727 | 262,982 | 273,036 | 311,052 | -38,016 | -12.2 |
| (b) One year and under six years .. | 1,109,756 | 1,192,010 | 1,222,631 | 1,174,799 | 1,039,638 | +135,161 | +13.0 |
| Total number of vaccinations performed during the non-vaccination season. | 393,875 | 1,162,525 | 1,139,924 | 898,775 | 250,866 | +647,909 | +258.3 |
| (a) Primary .. | 113,119 | 335,901 | 295,472 | 248,164 | 86,181 | +161,983 | +187.9 |
| (b) Revaccinations .. | 280,756 | 826,624 | 844,452 | 650,611 | 164,685 | +485,926 | +295.1 |

The appended table is self-explanatory. The province has been visited by the usual quinquennial epidemic of small-pox, since the close of the year 1924, and the all-round increase is due to the vigorous anti-vaccination campaigns started by practically every local body. The excess in the average number of revaccinations performed during the triennium under review of 147.4 per cent. and the increase of 258.3 per cent. in the recess work, are very creditable indeed. The apparent decrease in the percentage of successful primary cases, and the unchanged rate of successful revaccination cases in which the results were known, are due to the fact that during the epidemic season, the vaccinators were too busy with vaccinating every person they could lay their hands upon and could not spare sufficient time to note the result of every operation performed by them and hence the majority of the cases were returned as "unknown."

A comparison of the work done in 1928-29 with the previous year shows an excess of 1,307,037 in the number of persons vaccinated and of 1,305,582 in that of the operations performed, the latter comprising of 123,543 in the number of primary and of 1,182,039 in that of revaccinations. The number of successful operations also increased by 82,162 in the case of primary and by 741,061 in that of revaccinations. 434 more persons on an average were vaccinated by each vaccinator. While the

rate of success in primary cases in which results were known declined from 94.1 per cent. to 92.9 per cent., that of revaccinations rose from 53.3 per cent. to 56.5 per cent. 79.7 persons per mille of population were successfully vaccinated against 62.2 in the previous year. Again, while there was a decrease of 18,745 in the number of children under one year successfully vaccinated, an excess of 30,621 was noticed in the case of children of one year and under six years of age. The recess vaccination fell by 22,601, but while the number of primary operations decreased by 40,429, there was an increase of 17,828 in the number of revaccinations.

4. Vaccination in Rural Areas.—(a)
The total number of operations performed in the rural areas in the triennial period under review was 11,270,136 comprised of 5,389,593 primary and 5,880,543 revaccinations, the average being 3,756,712, against a total of 6,916,564, of which 4,726,382 were primary and 2,190,182 revaccinations and an average of 2,305,521 in the previous triennium showing a net increase of 4,353,572 in the total, 663,211 in primary, 3,690,361 in revaccinations and an average annual increase of 1,451,190 in the total, 221,070 in primary and 1,230,120 in revaccinations in the period under review.

(b) The following table compares the number of operations performed in the rural areas in 1928-29 with those done in 1927-28.

All the districts in the province performed an excess number of operations in 1928-29, as compared with the previous year, except the Asansol

Mining Settlement, Birbhum, Bankura, Midnapur, Jalpaiguri and Pabna. This increase was most marked in Malda, Murshidabad and Jessore.

Vaccination in rural areas.

| Districts. | Vaccinations. | | Differ- ences. | Percent- age of increase + or de- crease—. |
|------------------------------|---------------|-----------|-------------------|---|
| | 1927-28. | 1928-29. | | |
| Burdwan .. | 68,441 | 88,697 | 20,256 | +29.59 |
| Asansol Mining Settlement .. | 29,168 | 24,471 | 4,697 | -16.10 |
| Birbhum .. | 75,792 | 60,001 | 15,791 | -20.83 |
| Bankura .. | 72,012 | 64,685 | 7,327 | -10.17 |
| Midnapur .. | 382,606 | 268,984 | 113,622 | -29.70 |
| Hooghly .. | 44,733 | 47,239 | 2,506 | +5.60 |
| Howrah .. | 39,212 | 45,907 | 6,695 | +17.07 |
| 24-Parganas .. | 153,561 | 174,737 | 21,176 | +13.79 |
| Nadia .. | 97,171 | 108,892 | 11,721 | +12.06 |
| Murshidabad .. | 158,914 | 361,743 | 202,829 | +127.6 |
| Jessore .. | 83,986 | 178,399 | 94,413 | +112.4 |
| Khulna .. | 76,477 | 147,591 | 71,114 | +92.98 |
| Rajshahi .. | 99,434 | 155,961 | 56,527 | +56.84 |
| Dinajpur .. | 138,809 | 150,419 | 11,610 | +8.36 |
| Jalpaiguri .. | 63,988 | 63,311 | 677 | -1.06 |
| Darjeeling .. | 18,495 | 34,910 | 16,415 | +88.74 |
| Rangpur .. | 163,901 | 220,858 | 56,957 | +34.75 |
| Bogra .. | 69,974 | 73,579 | 3,605 | +56.15 |
| Pabna .. | 212,754 | 113,572 | 99,182 | -46.62 |
| Malda .. | 184,851 | 498,429 | 313,578 | +169.6 |
| Dacca .. | 161,097 | 273,724 | 112,627 | +69.91 |
| Mymensingh .. | 387,310 | 519,130 | 131,820 | +34.03 |
| Faridpur .. | 128,990 | 159,091 | 30,101 | +23.33 |
| Bakarganj .. | 150,341 | 206,754 | 56,413 | +37.52 |
| Chittagong .. | 122,929 | 186,323 | 63,394 | +51.56 |
| Noakballi .. | 182,948 | 237,545 | 54,597 | +29.84 |
| Tippera .. | 223,137 | 380,658 | 157,521 | +70.58 |
| Chittagong Hill Tracts .. | 9,825 | 19,604 | 9,779 | +99.52 |
| Total for the Province .. | 3,600,856 | 4,865,214 | 1,264,358 | +35.11 |

(c) The details of primary and revaccinations performed district by district are given below:—

| Districts. | Primary vaccinations. | | Difference. | Percentage of increase + or decrease—. | Revaccinations. | | Difference. | Percentage of increase + or decrease—. |
|------------------------------|-----------------------|-----------|-------------|--|-----------------|-----------|-------------|--|
| | 1927-28. | 1928-29. | | | 1927-28. | 1928-29. | | |
| Burdwan .. | 40,290 | 47,512 | 7,222 | +17.92 | 28,151 | 41,185 | 13,034 | +46.3 |
| Asansol Mining Settlement .. | 13,142 | 14,051 | 909 | +6.91 | 16,026 | 10,420 | 5,606 | -34.98 |
| Birbhum .. | 37,360 | 30,535 | 6,825 | -18.27 | 38,432 | 29,466 | 8,966 | -15.52 |
| Bankura .. | 36,694 | 41,617 | 4,923 | +13.42 | 35,318 | 23,068 | 12,250 | -34.68 |
| Midnapur .. | 143,629 | 96,063 | 47,566 | -33.11 | 238,977 | 172,921 | 66,056 | -27.64 |
| Hooghly .. | 19,862 | 23,699 | 3,837 | +19.31 | 24,871 | 23,540 | 1,331 | -5.35 |
| Howrah .. | 24,626 | 26,700 | 2,074 | +8.42 | 14,586 | 19,207 | 4,621 | +31.68 |
| 24-Parganas .. | 112,643 | 108,916 | 3,727 | -3.31 | 40,918 | 65,821 | 24,903 | +60.85 |
| Nadia .. | 45,045 | 55,685 | 10,640 | +23.61 | 52,126 | 53,207 | 1,081 | +2.07 |
| Murshidabad .. | 55,958 | 55,460 | 498 | -8.89 | 102,956 | 306,283 | 203,327 | +197.5 |
| Jessore .. | 42,951 | 42,713 | 238 | -5.55 | 41,035 | 135,686 | 94,651 | +230.6 |
| Khulna .. | 52,390 | 59,790 | 7,400 | +14.12 | 24,087 | 87,801 | 63,714 | +264.5 |
| Rajshahi .. | 40,740 | 24,488 | 16,252 | -39.89 | 58,694 | 131,473 | 72,779 | +124.0 |
| Dinajpur .. | 83,733 | 84,977 | 1,244 | +1.48 | 55,076 | 65,442 | 10,366 | +18.82 |
| Jalpaiguri .. | 29,510 | 27,010 | 2,500 | -8.47 | 34,478 | 36,301 | 1,823 | +5.29 |
| Darjeeling .. | 8,566 | 10,034 | 1,468 | +17.13 | 9,929 | 24,876 | 14,947 | +150.5 |
| Rangpur .. | 93,779 | 110,935 | 17,156 | +18.29 | 70,122 | 109,923 | 39,801 | +56.75 |
| Bogra .. | 30,574 | 30,915 | 341 | +1.11 | 39,400 | 42,664 | 3,264 | +8.28 |
| Pabna .. | 74,301 | 57,666 | 16,635 | -22.38 | 138,453 | 55,906 | 82,547 | -59.64 |
| Malda .. | 27,467 | 29,771 | 2,304 | +83.86 | 157,384 | 468,658 | 311,274 | +197.8 |
| Dacca .. | 106,214 | 142,341 | 36,127 | +34.01 | 54,883 | 131,383 | 76,500 | +139.4 |
| Mymensingh .. | 240,839 | 269,646 | 28,807 | +11.96 | 146,471 | 249,484 | 103,013 | +70.32 |
| Faridpur .. | 64,993 | 65,904 | 911 | +1.40 | 63,997 | 93,187 | 29,190 | +45.61 |
| Bakarganj .. | 126,696 | 166,633 | 39,937 | +31.52 | 23,645 | 40,121 | 16,467 | +69.67 |
| Chittagong .. | 64,542 | 83,091 | 18,549 | +28.74 | 58,387 | 103,232 | 44,845 | +76.80 |
| Noakhali .. | 78,047 | 89,286 | 11,239 | +14.40 | 104,901 | 148,259 | 43,358 | +41.33 |
| Tippera .. | 121,717 | 134,580 | 12,863 | +10.57 | 101,420 | 246,078 | 144,658 | +142.6 |
| Chittagong Hill Tracts .. | 6,242 | 7,846 | 1,604 | +25.69 | 3,583 | 11,758 | 8,175 | +228.1 |
| Total .. | 1,822,550 | 1,937,864 | 115,314 | +6.32 | 1,778,306 | 2,927,350 | 1,149,044 | +64.6 |

Both the primary and revaccinations decreased in Birbhum, Midnapur and Pabna. In the Asansol Mining Settlement, Bankura and Hooghly while the primary vaccinations increased, there was a reduction in the number of revaccinations. The reverse was the case in 24-Parganas, Murshidabad, Jessore, Rajshahi and Jalpaiguri. The remaining 17 districts showed an increase both in primary and revaccinations. In Burdwan, the Asansol Mining Settlement, Birbhum, Bankura, Hooghly, Howrah, 24-Parganas, Nadia, Dinajpur, Rangpur, Pabna, Dacca, Mymensingh, Faridpur, Bakarganj and Chittagong the line of least resistance was followed with the result that primary vaccinations exceeded revaccinations, even though the smallpox epidemic in at least six of these districts was more prevalent in 1928-29 than what it had been in the previous year. It is unfortunate that in these districts the importance of revaccination as an essential factor in controlling smallpox epidemics was overlooked by the local sanitary authorities, but I trust that this laxity will not be repeated in future.

(d) The increase in the number of vaccinations wherever it has occurred, has been due to the presence of smallpox in an epidemic form, which is the only stimulus for the people to get themselves vaccinated. The decrease has been ascribed by the District Health Officers to various causes, chiefly the comparative freedom of the district from smallpox during season time, the presence of malaria affecting both the vaccinators and the persons to be vaccinated, the paucity in the number of vaccinators employed, the insufficient supervision exercised by the Sanitary Officers due to their being very busy with anti-cholera work, and to a certain extent by the obstruction caused by anti-vaccinationists, quacks and conscientious and religious objectors. More attention is said to have been paid to mass revaccination to suppress local smallpox epidemics and hence no time was left to vaccinators to carry on their normal work on primary vaccination in many districts.

5. Vaccination in Municipalities.—
(a) 942,697 operations of which 270,156 were primary and 672,541 revaccinations, were performed in the present triennium against 556,406, 223,180 and 333,226, respectively, in the previous

triennium showing a net increase of 386,291 in total, 46,976 in primary and 339,315 in revaccinations and an average annual increase of 128,764, 15,659 and 113,105, respectively, in the triennial period under review.

(b) Both the primary and revaccinations in 1928-29 showed an excess over those of the previous year in the municipalities of Burdwan, Hooghly, Howrah, 24-Parganas, Nadia, Jessore, Khulna, Rajshahi, Dinajpur, Jalpaiguri, Darjeeling, Bogra and Bakarganj districts and a reduction in those of Bankura, Midnapur, Rangpur, Pabna, Dacca, Mymensingh, Faridpur, Chittagong, Noakhali and Tippera. In the municipalities of Birbhum and Murshidabad districts and in Calcutta, while more primary vaccinations were performed during the year under review, the number of revaccinations decreased; the reverse was the case, however in those of the Malda district.

Vaccination in municipalities.

| Districts. | Primary vaccinations. | | Increase + or decrease - | Revaccinations. | | Increase + or decrease - |
|-------------|-----------------------|----------|--------------------------|-----------------|----------|--------------------------|
| | 1927-28. | 1928-29. | | 1927-28. | 1928-29. | |
| Burdwan | .. | 2,481 | 3,106 | + | 3,202 | 4,611 |
| Birbhum | .. | 181 | 191 | + | 952 | 112 |
| Bankura | .. | 2,492 | 2,202 | - | 2,275 | 1,770 |
| Midnapur | .. | 2,049 | 1,631 | - | 5,438 | 2,125 |
| Hooghly | .. | 4,820 | 5,545 | + | 3,693 | 8,867 |
| Howrah | .. | 4,267 | 4,683 | + | 5,351 | 7,244 |
| 24-Parganas | .. | 13,039 | 14,360 | + | 7,157 | 9,866 |
| Calcutta | .. | 20,993 | 23,877 | + | 90,087 | 82,275 |
| Nadia | .. | 2,961 | 3,004 | + | 2,791 | 3,564 |
| Murshidabad | .. | 2,239 | 2,337 | + | 4,404 | 4,235 |
| Jessore | .. | 239 | 440 | + | 194 | 286 |
| Khulna | .. | 580 | 965 | + | 698 | 830 |
| Rajshahi | .. | 951 | 1,319 | + | 2,199 | 3,230 |
| Dinajpur | .. | 595 | 1,132 | + | 1,628 | 6,470 |
| Jalpaiguri | .. | 363 | 467 | + | 588 | 626 |
| Darjeeling | .. | 1,129 | 1,807 | + | 3,681 | 25,211 |
| Rangpur | .. | 1,418 | 929 | - | 7,427 | 1,200 |
| Bogra | .. | 284 | 772 | + | 1,045 | 7,057 |
| Pabna | .. | 2,127 | 2,023 | - | 1,943 | 1,930 |
| Malda | .. | 1,223 | 957 | - | 2,149 | 7,349 |
| Dacca | .. | 8,021 | 7,129 | - | 16,474 | 14,937 |
| Mymensingh | .. | 3,448 | 2,534 | - | 5,331 | 3,857 |
| Faridpur | .. | 1,722 | 1,683 | - | 1,225 | 860 |
| Bakarganj | .. | 1,895 | 2,074 | + | 1,726 | 2,858 |
| Chittagong | .. | 1,897 | 1,436 | - | 8,354 | 4,721 |
| Noakhali | .. | 771 | 382 | - | 1,597 | 606 |
| Tippera | .. | 2,001 | 1,885 | - | 1,851 | 1,836 |
| Total | .. | 84,186 | 88,870 | + | 183,460 | 208,533 |

6. Vaccinations performed by other agencies.—(a) The following table compares these operations during the two trienniums:—

| Years. | Primary vaccinations. | Revaccinations. | Total. |
|----------------------------------|-----------------------|-----------------|---------|
| 1926-27 | 15,522 | 81,345 | 96,867 |
| 1927-28 | 21,938 | 85,397 | 107,335 |
| 1928-29 | 24,093 | 93,319 | 117,412 |
| Total | 61,553 | 260,061 | 321,614 |
| Total of the previous triennium. | 47,306 | 230,592 | 277,898 |
| Increase | 14,247 | 29,469 | 43,716 |
| Average increase | 4,749 | 9,823 | 14,572 |

(b) The number of operations performed during the year under review and the previous year are shown below:—

| Agencies. | Primary vaccinations. | | Increase or decrease | Revaccinations. | | Increase or decrease |
|--------------|-----------------------|----------|----------------------|-----------------|----------|----------------------|
| | 1927-28. | 1928-29. | | 1927-28. | 1928-29. | |
| Tea gardens | 11,566 | 9,675 | — | 13,957 | 23,415 | + |
| Factories | 7,303 | 7,930 | + | 9,038 | 22,017 | + |
| Railways | 2,746 | 6,404 | + | 27,220 | 14,766 | — |
| Steamers | .. | .. | .. | 2,391 | 1,879 | — |
| Dispensaries | .. | 8 | + | .. | 19 | + |
| Jails | 323 | 76 | — | 32,791 | 31,223 | — |
| Total | 21,938 | 24,093 | + | 85,397 | 93,319 | + |

7. Protection afforded to infants.—(a) An average of 256·0 per mille of the surviving population of infants in the province, 237·8 in rural and 524·7 in the municipal areas were successfully vaccinated during the present triennium against 269·2, 252·6 and 517·5 respectively in the previous one. In Calcutta, however, the degree of protection was 1107·8 against 958·7 in the previous triennium.

(b) In 1928-29, 216·9 per mille of all the available infants were protected in rural areas, 473·3 in the municipalities, 802·05 in Calcutta and 233·3 in the province, against 246·7, 511·7, 856·8 and 261·4, respectively, in the previous year. While the increase in the towns is satisfactory, the decrease in the rural areas is regrettable. With the exception of Burdwan, Bankura, Nadia, Jalpaiguri, Darjeeling, Dacca and Chittagong,

all the other districts have returned a decrease in this proportion. The record of the following three districts deserves special notice:—

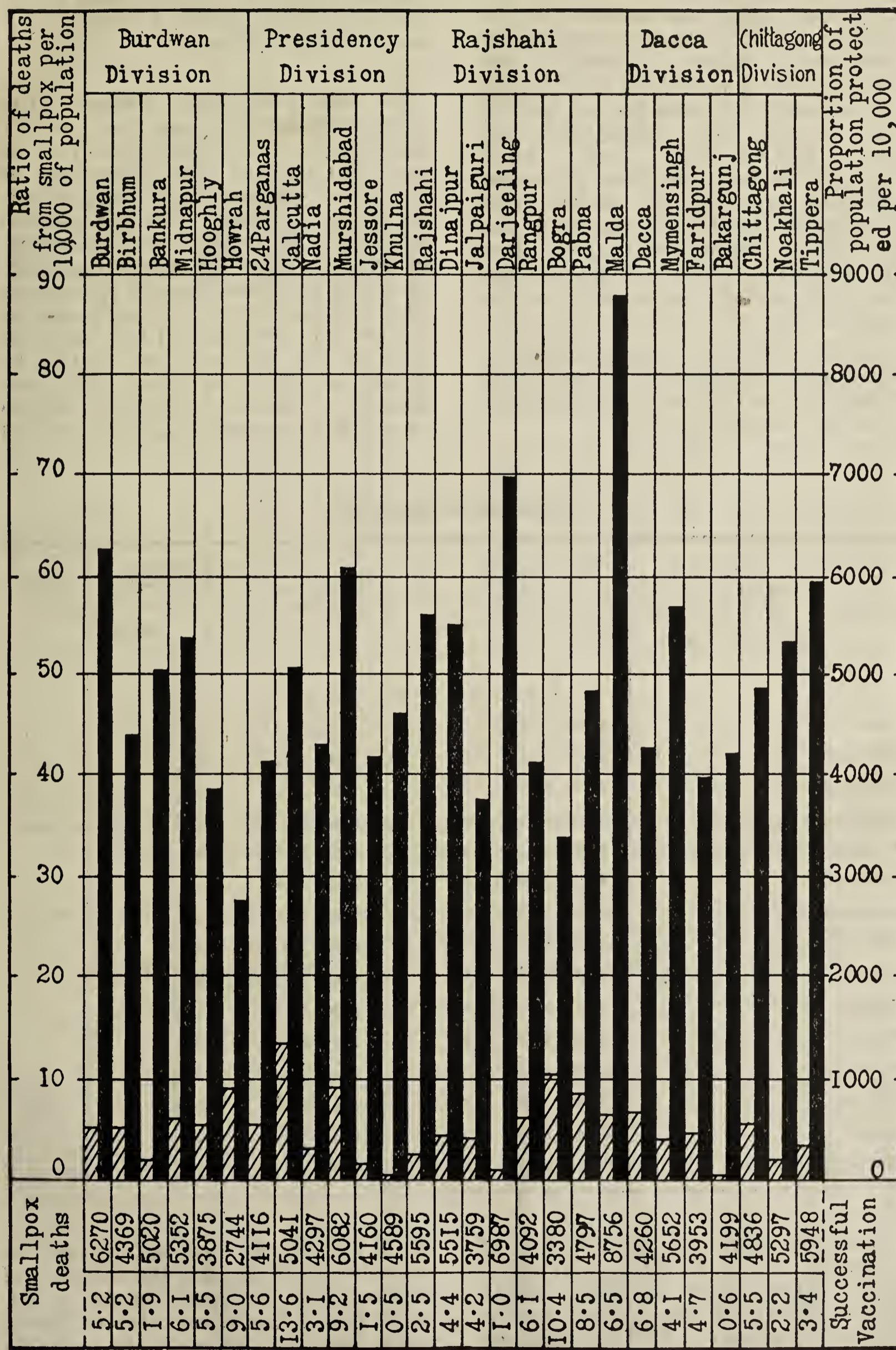
| | 1927-28. | 1928-29. |
|------------|----------|----------|
| Mymensingh | .. | 95·6 |
| Faridpur | .. | 77·9 |
| Bakarganj | .. | 41·2 |
| | | 85·7 |
| | | 65·6 |
| | | 31·4 |

The reduction in Rajshahi and Jessoré from 487·1 and 334·1 in 1927-28 to 255·1 and 165·6 in 1928-29, respectively, is, to say the least of it, very discouraging.

(c) The low degree of protection in the rural areas has been attributed by the District Health Officers generally to the unwillingness on the part of the parents or guardians to have their children vaccinated under the age of one year, in fact to 3 or 4 years in some districts; and the vaccinators having no knowledge of the actual age of infants in a family are unable to trace them; for the same reason no notice could be served on their guardians under the Bengal Vaccination Act for the enforcement of primary vaccination. Now that the Bengal Births and Deaths Registration Act has been extended to rural areas, there is every possibility of this difficulty being overcome. Occasionally, it has been reported to be due to the illness of infants from malaria, measles and other epidemic and endemic diseases.

8. Linear method of vaccination.—This method has only been very recently introduced in all the districts, and sufficient time has not yet elapsed to finally establish its superiority over the old scarification method. Besides, the vaccinators so long accustomed to the old method have not yet become fully used to the new technique. So far as the consensus of opinion of the District Health Officers goes, it has given a rate of success as satisfactory as the old method, to say the least of it, and what is more, being less painful and comparatively free from complications, has been favourably received by the general public. The District Health Officers of Birbhum, Jalpaiguri and Bakarganj, however, still seem to favour the old method. In Dinajpur, linear method was found to be more successful in primary than in revaccination cases, where scarification was reported to have ensured better success. The Bogra District Health Officer obtained better results with incisions "given like a cross in order to increase the skin surface inoculated." I am convinced that, in course of time, the linear

Diagram illustrating Death-rates from Small-pox and degree of Protection afforded during 1919-20 to 1928-29.



Indicate the death rates from small-pox.

Indicate the proportion of population protected by vaccination.

method of incision will be universally accepted without a single dissentient voice.

9. Cost of vaccination.—(a) The average cost of vaccination during the triennium under review was Rs. 4,75,712-1-1 against Rs. 4,47,795-0-10 in the previous triennium. In 1928-29, the total cost amounted to Rs. 4,84,635-10-11, of which Rs. 1,85,165-9-11 (including the annual recurring grant of Rs. 50,000) were contributed by the Government and Rs. 2,99,470-1-0 by local bodies, against Rs. 4,89,681-9-8, Rs. 1,77,523-0-8 and Rs. 3,12,158-9-0, respectively, in the previous year.

(b) The following district boards reduced their expenditure on vaccination during the year under review compared with the previous year:—

(c) The average cost of each successful case was 2 annas and 5 pies in the present against 3 annas and 2 pies in the previous triennium and one anna and 7 pies in 1928-29 against 2 annas and 8 pies in the preceding year.

10. Mortality from smallpox.—The diagram on preceding page gives side by side the death rates from smallpox in each district and the proportion of population protected by vaccination during the last 10 years. The quinquennial epidemic that started towards the close of 1924, continued throughout the year, though it now shows signs of abatement. The average number of deaths during the present triennium 37,890 exceeded that of the previous one, 10,989 by 26,901 or 244.7 per cent. The total number of deaths in 1928-29, 42,020 exceeded the previous year's total 39,713

Expenditure on Vaccination.

| Districts. | Expenditure. | | Amount of reduction. | Small pox death-rate per mille. | | Increase + or decrease — |
|-------------------|--------------|-------------|----------------------|---------------------------------|----------|-----------------------------------|
| | 1927-28. | 1928-29. | | 1927-28. | 1928-29. | |
| Dacca | 4,959 3 2 | 4,943 3 7 | 15 15 7 | .84 | 2.67 | + |
| 24-Parganas | 11,608 8 6 | 11,281 14 7 | 326 9 11 | .88 | .35 | - |
| Darjeeling | 4,570 6 0 | 4,192 6 0 | 378 0 0 | .07 | .30 | + |
| Tippera | 7,923 15 0 | 7,003 2 0 | 920 13 0 | .41 | 1.16 | + |
| Hooghly | 2,911 14 9 | 1,920 5 0 | 991 9 9 | .85 | .71 | - |
| Jalpaiguri | 5,057 1 0 | 3,987 11 11 | 1,069 5 1 | .07 | .06 | - |
| Bakarganj | 6,192 3 0 | 5,104 1 0 | 1,088 2 0 | .07 | .10 | + |
| Burdwan | 17,012 5 10 | 15,798 0 11 | 1,214 4 11 | .72 | .77 | + |
| Jessore | 6,699 3 0 | 5,344 0 0 | 1,355 3 0 | .22 | .11 | - |
| Rajshahi | 4,871 9 0 | 3,502 9 0 | 1,369 0 0 | .21 | .55 | + |
| Nadia | 6,665 6 0 | 4,847 7 0 | 1,817 15 0 | .45 | .69 | + |
| Mymensingh | 23,690 5 9 | 21,006 15 6 | 2,683 6 3 | .68 | 1.33 | + |
| Faridpur | 4,497 0 0 | 1,735 3 0 | 2,761 13 0 | .44 | 1.71 | + |
| Pabna | 11,045 5 6 | 6,998 3 6 | 4,047 2 0 | 2.42 | .39 | - |
| Midnapur | 19,853 3 9 | 13,555 14 0 | 6,297 5 9 | 1.70 | .92 | - |

The reduction in the districts of Burdwan, Nadia, Rajshahi, Darjeeling, Dacca, Mymensingh, Faridpur, Bakarganj and Tippera where there was an excess of smallpox in 1928-29, compared with the previous year, was extremely injudicious.

by 2,307 or 5.8 per cent. From the following table showing the number of deaths from smallpox, district by district, it will be observed that compared with the previous year, the mortality was reduced in every district except Burdwan, Nadia, Rajshahi, Darjeeling,

Malda, and all the districts of Dacca and Chittagong Divisions, with the exception of Noakhali.

| Districts. | Small-pox deaths during— | | Increase or decrease |
|-------------|-----------------------------|----------|----------------------------|
| | 1927-28. | 1928-29. | |
| Burdwan | 1,040 | 1,115 | + |
| Birbhum | 1,024 | 267 | — |
| Bankura | 243 | 120 | — |
| Midnapur | 4,535 | 2,468 | — |
| Hooghly | 919 | 764 | — |
| Howrah | 1,511 | 295 | — |
| 24-Parganas | 2,179 | 859 | — |
| Calcutta | 1,172 | 505 | — |
| Nadia | 680 | 1,024 | + |
| Murshidabad | 2,977 | 2,363 | — |
| Jessore | 386 | 189 | — |
| Khulna | 126 | 43 | — |
| Rajshahi | 327 | 817 | + |
| Dinajpur | 1,594 | 1,466 | — |
| Jalpaiguri | 69 | 57 | — |
| Darjeeling | 21 | 86 | + |
| Rangpur | 2,619 | 2,076 | — |
| Bogra | 2,710 | 1,345 | — |
| Pabna | 3,376 | 541 | — |
| Malda | 1,537 | 2,347 | + |
| Dacca | 2,642 | 8,376 | + |
| Mymensingh | 3,304 | 4,304 | + |
| Faridpur | 1,002 | 3,653 | + |
| Bakarganj | 201 | 278 | + |
| Chittagong | 1,639 | 3,429 | + |
| Noakhali | 730 | 313 | — |
| Tippera | 1,150 | 2,920 | + |
| Total | 39,713 | 42,020 | + |

This reduction in smallpox mortality in as many as 16 out of the 27 districts in the province has been chiefly due to the persistently vigorous activities of the local bodies, the majority of whom, following the advice given to them by the Public Health Department, maintained during the year under review, intensive vaccination and revaccination campaigns in their respective jurisdictions, helped by their vaccination inspecting staff and the rural health organisations, who gave a good account of themselves by performing vaccinations with their own hands as detailed in the statement below. In this connection the anti-smallpox campaign started in the Malda district where about five hundred thousand vaccinations, mostly revaccinations, were performed during the year deserves special notice; the campaign is still going on.

Both the Government special Inspectors of Vaccination were kept continually on the move and visited the districts of Malda, Mymensingh, Bakarganj, Faridpur, Nadia, Bankura, Dinajpur and Burdwan. I myself visited and advised the local authorities in Bogra, Rangpur, Mymensingh, Jessore, Midnapur and Murshidabad districts.

Statement showing the number of vaccinations performed by the Sanitary Inspectors and the Vaccination Inspecting Staff and the number of villages where smallpox was prevalent during 1928-29.

| Districts. | Number of villages in the district. | Number of villages attacked with small- pox. | Number of Sanitary Ins- pectors. | Number of operations performed by Sanitary Inspectors. | | | Number of Vaccina- tion Ins- pectors and Sub-Ins- pectors. | Number of operations per- formed by the vaccination Inspecting Staff. | | | | |
|-------------|---|--|--|--|---------------------|--------|---|---|---------------------|----------|--|--|
| | | | | Primary. | Revacci- nation. | Total. | | Primary. | Revacci- nation. | Total. | | |
| Burdwan | 2,817 | 452 | 14 | 3,283 | 1,641 | 4,924 | 3 | .. | 689 | 1,469 | | |
| Birbhum | 2,302 | 122 | 5 | 516 | 1,342 | 1,858 | 2 | 204 | 98 | 302 | | |
| Bankura | 4,003 | 76 | 4 | 1,080 | 1,527 | 2,607 | 2 | 296 | 296 | 343 | | |
| Midnapur | 10,351 | 1,145 | 18 | 1,550 | 5,167 | 6,717 | 5 | 738 | 1,214 | 1,952 | | |
| Hooghly | 2,197 | 7 | 488 | No information available. | | | Primary. | | | Primary. | | |
| Howrah | 863 | 22 | 7 | 488 | 819 | 1,307 | 2 | 204 | 98 | 302 | | |
| 24-Parganas | 3,427 | 264 | 17 | 2,018 | 3,015 | 5,033 | 5 | 1,283 | 1,283 | 2,227 | | |
| Nadia | 2,353 | 134 | 14 | 1,330 | 10,891 | 12,221 | 6 | 884 | 5,986 | 6,870 | | |
| Murshidabad | 1,974 | 683 | 8 | 1,731 | 7,815 | 9,546 | 5 | 2,338 | 18,584 | 20,922 | | |
| Jessore | 3,613 | 34 | 19 | 821 | 4,005 | 4,826 | 2 | Nil | Nil | Nil | | |
| Khulna | 2,011 | 37 | 17 | 201 | 541 | 742 | 4 | 80 | 568 | 648 | | |
| Rajshahi | 4,487 | 282 | 6 | 283 | 799 | 1,082 | 3 | 79 | 841 | 920 | | |
| Dinajpur | 6,612 | 340 | 8 | 413 | 754 | 1,167 | 3 | 2,140 | 4,027 | 6,167 | | |
| Jalpaiguri | 722 | 33 | 8 | 406 | 1,218 | 1,624 | 3 | 385 | 1,544 | 1,929 | | |
| Rangpur | 4,102 | 620 | 14 | 622 | 987 | 1,609 | 4 | 140 | 244 | 384 | | |
| Bogra | 2,780 | Not known. | 5 | 127 | 395 | 522 | 2 | 291 | 446 | 737 | | |
| Pabna | 2,539 | 169 | 9 | 482 | 1,326 | 1,808 | 3 | 266 | 349 | 615 | | |
| Malda | 2,239 | 181 | 6 | 471 | 6,044 | 6,515 | 2 | 29 | 1,939 | 1,968 | | |
| Dacca | 4,737 | 650 | 20 | 4,202 | 7,743 | 11,945 | 5 | 331 | 2,264 | 2,595 | | |
| Mymensingh | 7,354 | 448 | 19 | 2,696 | 2,455 | 5,151 | 6 | 1,074 | 2,953 | 4,027 | | |
| Faridpur | 3,363 | 476 | 13 | 2,132 | 4,235 | 6,367 | 4 | 2,466 | 3,541 | 6,007 | | |
| Bakarganj | 2,990 | 213 | 16 | 1,407 | 1,703 | 3,110 | 4 | 1,360 | 824 | 2,184 | | |
| Chittagong | 870 | 138 | 8 | 2,439 | 2,098 | 4,537 | 3 | 760 | 505 | 1,265 | | |
| Noakhali | 1,719 | 200 | 14 | 4,681 | 10,682 | 15,363 | 2 | 939 | 2,767 | 3,706 | | |
| Tippera | 4,018 | 296 | 11 | 4,449 | 8,095 | 12,544 | 3 | 3,518 | 6,094 | 9,612 | | |

11. **Inspections.**—The following table shows the details of inspections by the various inspecting agencies:—

| Inspecting agencies. | Percentage of inspections to total number vaccinated. | | Percentage of cases found successful to total number inspected. | | Percentage of success reported by vaccinators. | |
|--|---|----------------|---|----------------|--|---------------|
| | Primary vaccination. | Revaccination. | Primary vaccination. | Revaccination. | Primary | Revaccination |
| (1) District Health Officers and Civil Surgeons of Darjeeling and Chittagong Hill Tracts | 2.9 | 1.1 | 96.1 | 66.3 | 92.5 | 59.05 |
| (2) Municipal Superintendents of Vaccination and Municipal Sanitary Inspectors .. | 1.9 | 1.9 | 92.4 | 36.7 | : | : |
| (3) Assistant Superintendents of Vaccination, Rural Sanitary Inspectors and Assistant Health Officers .. | 27.4 | 12.2 | 97.2 | 51.1 | | |

Comparatively high percentages of primary vaccination inspections were returned by the District Health Officers of Hooghly (36.9), Rangpur (17.6) and Malda (10.07) and of revaccinations by those of Rangpur (7.8) Dinajpur (7.4), and Burdwan (5.5). The Health Officer of Bogra district did not inspect a single vaccination while the District Health Officer of Mymensingh inspected only .04 per cent. primary and .01 per cent. revaccinations. The Municipal Superintendents and Sanitary Inspectors of Dinajpur and Bogra returned the highest percentages, 80.9 for primary and 89.6 for revaccination inspections, respectively, while only 4.7 per cent. primary and 3.7 revaccinations were inspected by these officers in Birbhum and Bakarganj municipalities, respectively. A hundred per cent. success to total number of primary vaccinations inspected, was returned each by the District Health Officers of Nadia, Murshidabad, Khulna and the Civil Surgeon of Darjeeling, and percentages of 97.6 and 93.1 in revaccinations, by those of Rangpur and Murshidabad, respectively. Turning to Municipal Inspecting Officers, a cent. per cent. success in primary cases was recorded in Birbhum, Jessore, Jalpaiguri, Faridpur and Chittagong and 74.3 and 73.3 in revaccinations in Hooghly and Burdwan, respectively. In Darjeeling alone, the success was found as low as 4.8 per cent. The rural inspecting staff of all the districts except Bogra, Malda and Bakarganj

returned a percentage of success above 90 in primary cases, while in revaccination the highest 87.7 and 81.2 were

recorded in Rangpur and Bankura, respectively. The lowest percentages were found by the rural staff of Bogra, 44.6 in primary cases and 27.6 in revaccinations. The vaccinators of all the districts but Bogra, Mymensingh and Noakhali, returned a success of above 90 per cent. in primary cases. In revaccinations, the highest percentages were noted by the vaccinators of Dinajpur, 73.6 and Rajshahi 71.9, and the lowest, 19.1 in Calcutta.

12. **Post vaccinal complications.**—With the introduction of the linear method of vaccination, the risk of sepsis has been reduced to a minimum. A few cases of Impetigo Contagiosa have been reported to have occurred after a long interval after vaccination and have been found on investigation to have no connection with the latter; in fact their occurrence in vaccinated cases generally coincides in point of time with the vaccination season and their number as compared with the total number of vaccinations performed has been so infinitesimal as not to justify any imputation against the purity of the lymph. Had the lymph employed anything to do with it, their number would have been far in excess of what it has been according to the reports of the various District Health Officers. Besides, a few cases of the same disease have been observed in unvaccinated persons in Calcutta. No case of post vaccinal encephalitis has ever been reported in this province.

13. Bengal Vaccine Depot.—Out of a total of 3,078 calves vaccinated during the year, including 58 buffalo calves, pulp was collected from 2,674, 329 being discharged as unfit for collection, 16 died and 59 carried over at the close of the year. The total output of lymph was 4,600,152 grains against 3,340,098 grains in the previous year and the average yield of pulp per calf was 282·48 grains against 250·76 in 1927-28. The collection from each buffalo calf was however 761·3 grains on an average. Out of a total stock of 4,848,263 grains made up of 4,600,152 grains manufactured during the year, 170,911 grains representing the previous year's balance and 77,200 grains in 15,440 capillary tubes purchased from Germany, 4,563,154 grains were issued against 3,574,274 grains in the previous year, leaving a closing balance of 284,809 grains. 123 stocks of lymph all chloro-formed, were bottled, sampled and analysed bacteriologically at the Bengal Public Health Laboratory. Every grain of lymph issued from the depot was thus not only examined bacteriologically but tested for its potency on calves and human arms. Regeneration of lymph was done through rabbits, buffaloes and ideal calves. The supply being made to individual vaccinators, more than 200 packets had to be despatched daily throughout the season, and the services of 2 depot assistants besides the 2 clerks had to be utilised for this purpose. The total sale of lymph during the year amounted to Rs. 8,551-6-0 against Rs. 7,876-3-0 in the previous year. The total expenditure was Rs. 42,051-14-0 against Rs. 42,491-7-0 in the previous year. In addition to the manufacture of lymph, the services of the Superintendent and of the depot assistant S. N. Mazumdar were on many occasions requisitioned for human vaccination both at the Writers' Buildings as well as in other places. More than 250 cases were also vaccinated by them at the Calcutta Health Exhibition. Regular courses of lectures and demonstrations were given by the Superintendent at the two sessions of the Sanitary Inspectors' training class and to the senior students of the Calcutta Medical College. Special demonstrations and lectures were also given for about a week at the Calcutta Health Exhibition.

From the table below, it will be seen how the quantity of lymph manufactured at the depot has increased and the average yield of pulp per calf improved

since 1902-03—the year of the appointment of the present Superintendent in charge of the Vaccine Depot. The quantity has in fact increased 46-fold during the last 26 years, and the average yield of pulp per calf about five times, the average output of lymph during the present triennium being 3,540,238 grains against 2,046,856 grains in the previous one. This is indeed very satisfactory, but on the other hand, much difficulty is experienced in procuring the required number of calves, although the supply has certainly improved with the enhanced hire according to the new contract. The markets on this side have been quite exhausted and unless some other source of supply hitherto undiscovered is tapped, it will be next to impossible to cope with the ever-increasing demand for lymph in connection with the intensive campaigns of vaccination organised by every local body to meet the approaching apprehended pandemic.

| Years. | Quantities manufactured. | Average yield of pulp per calf. | |
|---------|--------------------------|---------------------------------|---------|
| | | Grains. | Grains. |
| 1902-03 | .. | 103,470 | 59·81 |
| 1923-24 | .. | 1,694,180 | 168·06 |
| 1924-25 | .. | 1,975,780 | 182·14 |
| 1925-26 | .. | 2,470,607 | 204·29 |
| 1926-27 | .. | 2,680,464 | 201·09 |
| 1927-28 | .. | 3,340,098 | 250·76 |
| 1928-29 | .. | 4,600,152 | 282·48 |

14. General remarks.—With the near approach of the apprehended pandemic forecasted six years back by Dr. Bentley, nearly every district board acting on the wise precept "forewarned is forearmed" has been very busy throughout the year organising its staff and preparing its defences against smallpox by starting intensive campaigns of vaccination and revaccination wherever an epidemic has shown its face. It is, therefore, confidently expected that, whenever the pandemic comes, if it ever comes at all, it will not find the province unprepared. With the noble example of Malda before it, where helped by the District Magistrate and his subordinate officers, the District Health Officer managed to vaccinate

more than half of its population during the course of the year, every district is expected to endeavour, at least, not to lag behind if not to outpace it. But some sort of temporary emergency legislation to enforce revaccination and to amend the prosecution laws under the current Vaccination Act, seems to me to be a *sine qua non* of success, without which the revaccination of adults and primary vaccination of infants even within the prescribed limit of age during the course of the pandemic will be next to impossible. Happily, the question of satisfactory supervision, as necessary as the performance of vaccination itself, has been solved by the appointment of Sanitary Inspectors to every thana under the rural organisation scheme, which is

practically complete. The Government supervision is still a weak point, since with only two Inspectors of Vaccination at my disposal, it is absurd to think of the Public Health Department to keep a strict watch over every loophole through which the pandemic might penetrate the province. It is, therefore, essential that one such supervisor should be appointed to every division as has been suggested by me off and on in these reports.

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L.R.C.P. & S.E., L.F.P.S.G.,
*Assistant Director of Public Health
in charge of Vaccination and
Vital Statistics.*

Statistical Return

Showing Particulars of vaccination performed

| Number. | District. | Population of the rural areas of the districts according to the Census of 1921. | Average population per square mile. | Average number of vaccinators employed throughout the year. | Total number of persons vaccinated. | | | Average number of persons vaccinated by each vaccinator. | Primary | |
|-----------------------------|--------------------------------|---|-------------------------------------|---|-------------------------------------|-----------|-----------|--|-----------|-----------|
| | | | | | Male | Female | Total. | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| <i>Burdwan Division.</i> | | | | | | | | | | |
| 1 | Burdwan | 1,343,185 | 500 | 30 | 53,108 | 35,587 | 88,695 | 2,956 | 47,512 | |
| 2 | Asansol Mining Scitlement | .. | Paid | .. | 14,036 | 10,435 | 24,471 | 1,748 | 14,051 | |
| 3 | Birbhum | 838,655 | 479 | 20 | 34,655 | 25,346 | 60,001 | 3,000 | 30,535 | |
| 4 | Bankura | 964,487 | 369 | 44 | 37,635 | 27,050 | 64,685 | 1,470 | 41,617 | |
| 5 | Midnapur | 2,595,071 | 516 | 132 | 165,939 | 103,045 | 268,984 | 2,037 | 96,063 | |
| 6 | Hooghly | 900,802 | 780 | 20 | 30,981 | 16,258 | 47,239 | 2,362 | 23,699 | |
| 7 | Howrah | 778,893 | 1,502 | 24 | 31,823 | 14,084 | 45,907 | 1,912 | 26,700 | |
| | Total | .. | Paid | 7,421,093 | 540 | 284 | 368,177 | 231,805 | 599,982 | |
| | | | | | | | | 2,112 | 280,177 | |
| <i>Presidency Division.</i> | | | | | | | | | | |
| 8 | 24-Parganas | 1,998,318 | 527 | 156 | 105,292 | 69,445 | 174,737 | 1,120 | 108,916 | |
| 9 | Nadia | 1,390,704 | 507 | 46 | 64,915 | 43,977 | 108,892 | 2,365 | 55,685 | |
| 10 | Murshidabad | 1,182,983 | 566 | 59 | 211,999 | 149,744 | 361,743 | 6,131 | 55,460 | |
| 11 | Jessore | 1,700,924 | 587 | 101 | 107,082 | 71,315 | 178,397 | 1,766 | 42,713 | |
| 12 | Khuina | 1,421,116 | 301 | 53 | 84,167 | 63,206 | 147,373 | 2,781 | 59,790 | |
| | Total | .. | Paid | 7,694,045 | 492 | 415 | 573,455 | 397,687 | 971,142 | |
| | | | | | | | | 2,340 | 322,564 | |
| <i>Rajshahi Division.</i> | | | | | | | | | | |
| 13 | Rajshahi | 1,457,037 | 557 | 48 | 95,050 | 60,881 | 155,931 | 3,248 | 24,488 | |
| 14 | Dinajpur | 1,687,328 | 428 | 68 | 93,083 | 57,336 | 150,419 | 2,212 | 84,977 | |
| 15 | Jalpaiguri | 921,749 | 314 | 31 | 40,888 | 21,471 | 62,359 | 2,011 | 27,010 | |
| 16 | Darjeeling | 254,045 | 215 | 25 | 18,904 | 15,870 | 34,774 | 1,391 | 10,034 | |
| 17 | Rangpur | 2,482,722 | 713 | 120 | 158,407 | 62,444 | 220,851 | 1,840 | 110,935 | |
| 18 | Bogra | 1,032,300 | 751 | 29 | 49,421 | 24,158 | 73,579 | 2,537 | 30,915 | |
| 19 | Pabna | 1,344,633 | 809 | 73 | 70,830 | 42,742 | 113,572 | 1,555 | 57,666 | |
| 20 | Malda | 955,830 | 523 | 65 | 287,309 | 211,120 | 498,429 | 7,668 | 29,771 | |
| | Total | .. | Paid | 10,135,644 | 534 | 459 | 813,892 | 496,022 | 1,309,914 | |
| | | | | | | | | 2,853 | 375,796 | |
| <i>Dacca Division.</i> | | | | | | | | | | |
| 21 | Dacca | 2,975,915 | 1,097 | 96 | 163,630 | 110,094 | 273,724 | 2,851 | 142,341 | |
| 22 | Mymensingh | 4,703,249 | 759 | 238 | 325,246 | 193,884 | 519,130 | 2,181 | 269,646 | |
| 23 | Faridpur | 2,202,783 | 934 | 53 | 99,561 | 59,517 | 159,078 | 3,001 | 65,904 | |
| 24 | Bakarganj | 2,563,849 | 734 | 55 | 125,680 | 81,074 | 206,754 | 3,759 | 166,633 | |
| | Total | .. | Paid | 12,445,796 | 845 | 442 | 714,117 | 444,569 | 1,158,686 | |
| | | | | | | | | 2,619 | 644,524 | |
| <i>Chittagong Division.</i> | | | | | | | | | | |
| 25 | Chittagong | 1,570,760 | 630 | 60 | 116,933 | 69,390 | 186,323 | 3,105 | 83,091 | |
| 26 | Noakhali | 1,465,071 | 968 | 45 | 159,188 | 78,295 | 237,483 | 5,277 | 89,286 | |
| 27 | Tippera | 2,678,627 | 1,051 | 116 | 226,822 | 152,086 | 378,908 | 3,263 | 134,580 | |
| 28 | Chittagong Hill Tracts | 173,243 | 34 | 11 | 10,809 | 8,795 | 19,604 | 1,782 | 7,846 | |
| | Total | .. | Paid | 5,887,701 | 503 | 232 | 513,752 | 308,566 | 822,318 | |
| | Total of the Bengal Presidency | Paid | 43,584,279 | 578 | 1,832 | 2,983,393 | 1,878,649 | 4,862,042 | 2,653 | 1,937,864 |

Sum

| | | | | | Total number of persons vaccinated. | | Total number of operation performed. | |
|--|--|----|----|--|-------------------------------------|-----------------|--------------------------------------|-----------------|
| | | | | | Primary. | Re-vaccination. | Primary | Re-vaccination. |
| | | | | | | | | |
| | District Boards, Municipalities, Provincial Government, Calcutta Corporation and Asansol Mines Board of Health | | | | 2,024,705 | 3,134,310 | 2,026,734 | 3,135,883 |
| | Jails, Cantonments, Dispensaries, Railways, Steamers, Tea-Gardens and Factories | | | | 24,070 | 93,319 | 24,093 | 93,319 |
| | Total | .. | .. | | 2,048,775 | 3,227,629 | 2,050,827 | 3,229,202 |

No. I.

in the districts of Bengal during the year 1928-29.

| vaccination. | | | | Re-vaccination | | | | Percentage of successful cases in which results were known. | | Persons successfully vaccinated per 1,000 of populations | | Percentage of unknown cases to total cases. | | Average annual number of persons successfully vaccinated during the previous five years. | | Average annual number of deaths from small-pox during the previous five years. | | | | | | | |
|--------------|-----------|-----------------|--------|-------------------------------|-----------|--------------------|-------|---|-------|--|------|---|--------|--|--------|--|----|-----------------|----|---------|----|--------------------------------|--|
| Successful. | | Under one year. | | One year and under six years. | | Total of all ages. | | Unknown. | | Total. | | Successful. | | Unknown. | | Primary. | | Re-vaccination. | | Number. | | Ratio per 1,000 of population. | |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | | |
| 4,136 | 27,848 | 44,616 | 329 | 41,185 | 19,676 | 1,522 | 93.9 | 47.7 | 63.3 | .69 | 3.6 | 85,991 | 64.005 | 1,038 | .7 | | | | | | | | |
| 4,441 | 8,941 | 14,040 | | 10,420 | 6,883 | 172 | 99.9 | 66.05 | | | 1.6 | | | | | | | | | | | | |
| 4,272 | 22,422 | 29,449 | 274 | 29,466 | 16,620 | 2,519 | 96.4 | 56.4 | 54.9 | .89 | 8.5 | 45,160 | 53.8 | 676 | .8 | | | | | | | | |
| 8,923 | 29,983 | 40,407 | 340 | 23,068 | 10,046 | 1,972 | 97.08 | 43.5 | 52.3 | .82 | 8.5 | 48,624 | 50.4 | 286 | .3 | | | | | | | | |
| 9,031 | 56,939 | 87,704 | 5,554 | 172,921 | 92,257 | 32,026 | 91.3 | 53.3 | 69.3 | 5.7 | 18.5 | 151,966 | 58.5 | 2,016 | .7 | | | | | | | | |
| 3,086 | 18,080 | 23,036 | 147 | 23,540 | 1,226 | 1,547 | 97.1 | 68.9 | 43.5 | .62 | 6.5 | 31,679 | 35.1 | 647 | .7 | | | | | | | | |
| 4,978 | 19,294 | 25,890 | 326 | 19,207 | 9,051 | 3,823 | 96.9 | 47.1 | 44.8 | 1.2 | 19.9 | 31,284 | 40.1 | 1,229 | 1.6 | | | | | | | | |
| 38,867 | 183,507 | 265,142 | 6,970 | 319,807 | 170,759 | 43,581 | 94.6 | 53.3 | 58.7 | 2.4 | 13.6 | 394,704 | 53.1 | 5,893 | .8 | | | | | | | | |
| 15,739 | 72,633 | 102,809 | 2,468 | 65,821 | 39,439 | 4,484 | 94.3 | 59.9 | 71.1 | 2.2 | 6.8 | 97,323 | 49 | 1,773 | .9 | | | | | | | | |
| 18,235 | 32,495 | 52,893 | 1,158 | 53,207 | 34,497 | 4,938 | 94.9 | 64.8 | 62.8 | 2.08 | 9.2 | 61,370 | 44.1 | 316 | .2 | | | | | | | | |
| 19,365 | 29,767 | 52,278 | 1,066 | 306,283 | 167,417 | 47,068 | 94.2 | 54.6 | 185.7 | 1.9 | 15.3 | 72,668 | 61.4 | 1,425 | 1.2 | | | | | | | | |
| 5,422 | 33,257 | 41,870 | 194 | 135,686 | 80,535 | 14,593 | 98. | 59.3 | 71.9 | .45 | 10.7 | 63,037 | 37.06 | 268 | .1 | | | | | | | | |
| 12,256 | 36,575 | 58,821 | 327 | 87,801 | 46,045 | 10,667 | 98.3 | 52.4 | 73.7 | .54 | 12.1 | 60,677 | 42.7 | 82 | .05 | | | | | | | | |
| 71,017 | 204,727 | 308,671 | 5,213 | 648,798 | 367,933 | 81,750 | 95.7 | 56.7 | 87.9 | 1.6 | 12.6 | 355,075 | 46.1 | 3,864 | .5 | | | | | | | | |
| 9,257 | 13,652 | 23,892 | 381 | 131,473 | 94,562 | 13,645 | 97.5 | 71.9 | 81.2 | 1.5 | 10.3 | 70,888 | 59.2 | 146 | .1 | | | | | | | | |
| 14,890 | 49,248 | 77,922 | 2,098 | 65,442 | 48,211 | 4,823 | 91.7 | 73.6 | 74.7 | 2.4 | 7.3 | 90,451 | 53.6 | 549 | .3 | | | | | | | | |
| 12,659 | 10,618 | 25,577 | 20 | 36,301 | 15,619 | 2,548 | 94.6 | 43.03 | 44.6 | .07 | 7.02 | 33,479 | 36.3 | 201 | .2 | | | | | | | | |
| 3,656 | 4,343 | 9,291 | 640 | 24,876 | 9,346 | 7,383 | 92.6 | 37.5 | 73.3 | 6.3 | 29.6 | 13,100 | 51.5 | 12 | .04 | | | | | | | | |
| 11,039 | 80,755 | 102,896 | 4,946 | 109,923 | 90,353 | 7,132 | 92.7 | 82.1 | 77.6 | 4.4 | 6.4 | 89,586 | 36.9 | 939 | .3 | | | | | | | | |
| 2,895 | 17,795 | 25,972 | 2,949 | 42,664 | 14,906 | 11,768 | 84. | 34.9 | 39.6 | 9.5 | 27.5 | 35,832 | 34.8 | 1,073 | 1.03 | | | | | | | | |
| 7,077 | 4,119 | 54,082 | 858 | 55,906 | 27,847 | 6,531 | 93.7 | 49.8 | 23.7 | 1.4 | 11.6 | 74,895 | 55.7 | 1,686 | 1.2 | | | | | | | | |
| 12,529 | 13,557 | 27,275 | 1,725 | 468,658 | 323,228 | 94,594 | 91.6 | 68.9 | 366.7 | 5.7 | 20.1 | 62,067 | 64.6 | 501 | .5 | | | | | | | | |
| 74,002 | 194,087 | 346,907 | 13,617 | 935,243 | 624,072 | 148,424 | 92.3 | 66.7 | 95.7 | 3.6 | 15.8 | 470,298 | 46.4 | 5,107 | .5 | | | | | | | | |
| 9,143 | 103,158 | 130,964 | 5,825 | 131,383 | 65,537 | 16,343 | 92. | 49.8 | 66.03 | 4.09 | 12.4 | 122,708 | 39.2 | 1,060 | .3 | | | | | | | | |
| 7,795 | 147,534 | 234,788 | 15,735 | 249,484 | 158,722 | 29,202 | 87.07 | 63.6 | 83.5 | 5.8 | 11.7 | 294,098 | 62.4 | 1,353 | .2 | | | | | | | | |
| 3,525 | 41,969 | 63,287 | 1,400 | 93,187 | 40,869 | 15,795 | 99.05 | 43.8 | 47.2 | 2.1 | 16.9 | 67,919 | 30.7 | 342 | .1 | | | | | | | | |
| 2,050 | 80,185 | 157,746 | 4,332 | 40,121 | 25,627 | 2,910 | 94.6 | 63.8 | 71.5 | 2.6 | 7.2 | 96,745 | 46.5 | 102 | .4 | | | | | | | | |
| 22,513 | 372,846 | 586,785 | 27,292 | 514,175 | 290,755 | 64,250 | 91.04 | 56.5 | 70.4 | 4.2 | 12.4 | 581,470 | 46.7 | 2,857 | .2 | | | | | | | | |
| 7,021 | 67,755 | 79,508 | 1,056 | 103,232 | 41,393 | 12,698 | 95.6 | 40.1 | 76.9 | 1.2 | 12.3 | 80,000 | 50.9 | 791 | .5 | | | | | | | | |
| 9,129 | 51,371 | 73,291 | 11,966 | 148,259 | 56,509 | 52,469 | 82.08 | 38.1 | 88.5 | 13.4 | 35.3 | 81,858 | 55.7 | 325 | .2 | | | | | | | | |
| 10,243 | 96,507 | 125,288 | 4,403 | 246,078 | 171,386 | 22,645 | 93.08 | 69.6 | 110.7 | 3.2 | 9.2 | 150,317 | 56.7 | 440 | .1 | | | | | | | | |
| 366 | 5,677 | 7,771 | 19 | 11,758 | 5,906 | 257 | 99.04 | 50.2 | 78.9 | .24 | 2.1 | 8,004 | 46.2 | .. | .. | | | | | | | | |
| 26,759 | 221,310 | 285,858 | 17,444 | 509,327 | 275,194 | 88,069 | 90.8 | 54.02 | 95.3 | 5.5 | 17.2 | 320,179 | 54.4 | 1,556 | .2 | | | | | | | | |
| 233,158 | 1,176,477 | 1,793,363 | 70,536 | 2,927,350 | 1,728,713 | 426,074 | 92.5 | 59.05 | 80.7 | 3.6 | 14.5 | 2,121,726 | 48.6 | 19,277 | .4</td | | | | | | | | |

Showing the cost of vaccination in the districts of

| 1 Number. | 2 Circles and districts. | 3 Superior officers. | 4 Salary. | 5 Indian officers. | 6 Pay. | 7 Paid vaccinators. | 8 Pay. | 9 Licensed vaccinators. | 10 Pay. | 11 Clerks. | 12 Pay. | 13 Peons. | 14 Pay. | 15 Total pay of establishment. |
|-----------|---|----------------------|-------------|--------------------|--------------|---------------------|-----------|-------------------------|-----------|------------|------------|---------------|-----------|--------------------------------|
| 1 | <i>Burdwan Division.</i> | | | | Rs. A. P. | | Rs. A. P. | | | | | | Rs. A. P. | Rs. A. P. |
| 1 | Burdwan | 10 | 2,885 0 0 | 44 | 13,221 6 10 | .. | .. | .. | .. | .. | .. | 2 | 324 0 0 | 16,430 6 10 |
| 2 | Birbhum | 3 | 1,086 11 0 | 20 | 3,184 0 8 | .. | .. | .. | .. | .. | .. | .. | .. | 4,270 11 8 |
| 3 | Bankura | 2 | 1,130 0 0 | 44 | 3,116 5 0 | .. | .. | .. | .. | .. | .. | .. | .. | 4,246 5 0 |
| 4 | Midnapur | 6 | 2,445 12 1 | 132 | 12,769 5 6 | .. | .. | .. | .. | .. | .. | .. | .. | 15,215 1 7 |
| 5 | Hooghly | 3 | 1,151 0 0 | 20 | 2,020 14 0 | .. | .. | .. | .. | .. | .. | .. | .. | 3,171 14 0 |
| 6 | Howrah | 2 | 1,978 2 0 | 24 | 4,257 12 6 | .. | .. | .. | .. | .. | .. | .. | .. | 6,235 14 6 |
| | Total | 26 | 10,676 9 1 | 284 | 38,569 12 6 | .. | .. | .. | .. | .. | .. | 2 | 324 0 0 | 49,570 5 7 |
| | <i>Presidency Division.</i> | | | | | | | | | | | | | |
| 7 | 24-Parganas | 5 | 3,773 5 4 | 156 | 10,816 2 0 | .. | .. | .. | .. | .. | .. | .. | .. | 14,589 7 4 |
| 8 | Bengal Vaccine Depot | 8 | 10,993 11 0 | .. | .. | .. | .. | .. | .. | 2 | 1,581 4 0 | 2 | 374 13 0 | 12,949 12 0 |
| 9 | Calcutta | 18 | 26,950 0 0 | 60 | 42,310 0 0 | .. | .. | .. | .. | .. | .. | 30 | 5,580 0 0 | 74,840 0 0 |
| 10 | Nadia | 6 | 2,588 1 0 | 46 | 4,557 14 0 | .. | .. | .. | .. | .. | .. | .. | .. | 7,145 15 0 |
| 11 | Murshidabad | 5 | 2,160 0 0 | 59 | 11,379 1 0 | .. | .. | .. | .. | .. | .. | .. | .. | 13,539 1 0 |
| 12 | Jessore | 2 | 1,059 6 0 | 101 | 7,969 1 0 | .. | .. | .. | .. | .. | .. | .. | .. | 9,028 7 0 |
| 13 | Khulna | 3 | 1,871 0 0 | 53 | 2,814 15 6 | .. | .. | .. | .. | .. | .. | .. | .. | 4,685 15 6 |
| | Total | 47 | 49,395 7 4 | 475 | 79,847 1 6 | .. | .. | 2 | 1,581 4 0 | 32 | 5,954 13 0 | 136,778 9 10 | | |
| | <i>Rajshahi Division.</i> | | | | | | | | | | | | | |
| 14 | Rajshahi | 3 | 1,440 0 0 | 48 | 5,781 1 0 | .. | .. | .. | .. | .. | .. | .. | .. | 7,221 1 0 |
| 15 | Dinajpur | 3 | 1,510 0 0 | 68 | 10,252 11 0 | .. | .. | .. | .. | .. | .. | .. | .. | 11,762 11 0 |
| 16 | Jalpaiguri | 2 | 1,104 3 8 | 31 | 4,168 14 0 | .. | .. | .. | .. | .. | .. | .. | .. | 5,273 1 8 |
| 17 | Darjeeling (a) | 3 | 1,590 0 0 | 25 | 2,981 3 0 | .. | .. | .. | .. | .. | .. | .. | .. | 4,571 3 0 |
| 18 | Rangpur (b) | 5 | 3,459 12 0 | 120 | 10,596 8 0 | .. | .. | .. | .. | .. | .. | .. | .. | 14,056 4 0 |
| 19 | Bogra | 2 | 1,020 0 0 | 29 | 3,679 11 6 | .. | .. | .. | .. | .. | .. | .. | .. | 4,699 11 6 |
| 20 | Pabna | 3 | 1,657 12 0 | 73 | 6,734 15 0 | .. | .. | .. | .. | .. | .. | .. | .. | 8,392 11 0 |
| 21 | Malda (c) | 3 | 1,486 10 6 | 65 | 14,092 13 1 | .. | .. | .. | .. | .. | .. | .. | .. | 15,579 7 7 |
| | Total | 24 | 13,268 6 2 | 459 | 58,287 12 7 | .. | .. | .. | .. | .. | .. | .. | .. | 71,556 2 9 |
| | <i>Dacca Division.</i> | | | | | | | | | | | | | |
| 22 | Dacca | 5 | 2,166 3 1 | 96 | 5,629 15 4 | .. | .. | .. | .. | .. | .. | .. | .. | 7,796 2 5 |
| 23 | Mymensingh | 6 | 3,256 14 0 | 238 | 23,116 13 6 | .. | .. | .. | .. | .. | .. | .. | .. | 26,373 11 6 |
| 24 | Faridpur | 5 | 2,100 0 0 | 53 | 3,042 15 0 | .. | .. | .. | .. | .. | .. | .. | .. | 5,142 15 0 |
| 25 | Bakarganj | 4 | 1,755 5 0 | 55 | 6,164 11 0 | .. | .. | .. | .. | .. | .. | .. | .. | 7,920 0 0 |
| | Total | 20 | 9,278 6 1 | 442 | 37,954 6 10 | .. | .. | .. | .. | .. | .. | .. | .. | 47,232 12 11 |
| | <i>Chittagong Division.</i> | | | | | | | | | | | | | |
| 26 | Chittagong | 3 | 1,465 13 0 | 60 | 9,534 0 0 | .. | .. | .. | .. | .. | .. | .. | .. | 10,999 13 0 |
| 27 | Noakhali | 3 | 1,395 0 0 | 45 | 5,163 8 0 | .. | .. | .. | .. | .. | .. | .. | .. | 6,558 8 0 |
| 28 | Tippera | 3 | 1,320 0 0 | 116 | 7,274 9 0 | .. | .. | .. | .. | .. | .. | .. | .. | 8,594 9 0 |
| 29 | Chittagong Hill Tracts | 3 | 1,680 0 0 | 11 | 1,654 15 0 | .. | .. | .. | .. | .. | .. | .. | .. | 3,334 15 0 |
| | Total | 12 | 5,860 13 0 | 232 | 23,627 0 0 | .. | .. | .. | .. | .. | .. | .. | .. | 29,487 13 0 |
| | Total of the Vaccination Circles. | 129 | 88,479 9 8 | 1,892 | 2,38,286 1 5 | .. | .. | 2 | 1,581 4 0 | 34 | 6,278 13 0 | 3,34,625 12 1 | | |
| 30 | Vaccination Bureau .. | 2 | 4,150 0 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 18,450 0 0 |
| | Total of the Presidency | 131 | 92,629 9 8 | 1,892 | 2,38,286 1 5 | .. | .. | 2 | 1,581 4 0 | 34 | 6,278 13 0 | 3,53,075 12 1 | | |
| 31 | Municipalities | 2 | 1,398 0 0 | 154 | 30,757 1 0 | .. | .. | .. | .. | .. | .. | 2 | 504 0 0 | 32,659 1 0 |
| 32 | Railways, Tea gardens and factories | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 33 | Jails | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Grand total .. | 133 | 94,027 9 8 | 2,046 | 2,69,043 2 5 | .. | .. | 2 | 1,581 4 0 | 36 | 6,782 13 0 | 3,85,734 13 1 | | |

(a) 16 temporary vaccinators were
 (b) One Kabiraj was appointed by the
 (c) One Special Inspector of Vaccination

No. II.

Bengal during the year 1928-29.

| Travelling allowance. | Contingencies. | | Total cost. | Central revenues. | Provincial revenues. | Local fund. | Municipalities and Railways. | Native States. | Total. | Number of successful vaccinations and re-vaccinations. | Average cost of successful case. |
|--------------------------|----------------|----------------------|----------------|-------------------|----------------------|--------------|------------------------------------|----------------|----------------|--|----------------------------------|
| | Cost of lymph. | Other contingencies. | | | | | | | | | |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Rs. A. P. | Rs. | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. |
| 3,210 14 1 | .. | 3,049 15 7 | 22,691 4 6 | .. | 6,893 3 7 | 15,798 0 11 | .... | .. | 22,691 4 6 | 85,215 | 0 4 6 |
| 835 14 6 | .. | 134 12 6 | 5,241 6 8 | .. | 1,909 11 6 | 3,331 11 2 | .... | .. | 5,241 6 8 | 46,069 | 0 1 9 |
| 717 4 0 | .. | 65 8 6 | 5,029 1 6 | .. | 2,513 4 0 | 2,515 13 6 | .... | .. | 5,029 1 6 | 50,453 | 0 1 6 |
| 2,050 0 0 | .. | 417 8 6 | 17,682 10 1 | .. | 4,126 12 1 | 13,555 14 0 | .... | .. | 17,682 10 1 | 179,961 | 0 1 7 |
| 666 1 0 | .. | 178 6 0 | 4,016 5 0 | .. | 2,096 0 0 | 1,920 5 0 | .... | .. | 4,016 5 0 | 39,262 | 0 1 7 |
| | .. | 243 14 0 | 6,479 12 6 | .. | 1,978 2 0 | 4,501 10 6 | .... | .. | 6,479 12 6 | 34,941 | 0 2 11 |
| 7,480 1 7 | .. | 4,090 1 1 | 61,140 8 3 | .. | 19,517 1 2 | 41,623 7 1 | .... | .. | 61,140 8 3 | 435,901 | 0 2 2 |
| 10,321 11 0 | 4,201 12 | 39,746 12 3 | 1,91,048 13 1 | .. | 69,420 13 0 | 31,994 0 1 | 89,634 0 0 | .. | 1,91,048 13 1 | 715,176 | 0 4 3 |
| 1,580 3 0 | .. | 2,079 6 0 | 10,880 10 0 | .. | 7,378 1 0 | 3,502 9 0 | .... | .. | 10,888 10 0 | 118,454 | 0 1 5 |
| 1,063 5 0 | .. | 148 10 0 | 12,974 10 0 | .. | 2,573 5 0 | 10,401 5 0 | .... | .. | 12,974 10 0 | 126,133 | 0 1 7 |
| 986 8 0 | .. | 559 9 3 | 6,819 2 11 | .. | 2,831 7 0 | 3,987 11 11 | .... | .. | 6,819 2 11 | 41,196 | 0 2 7 |
| 2,999 8 0 | .. | 370 6 0 | 7,941 1 0 | .. | 3,748 11 0 | 4,192 6 0 | .... | .. | 7,941 1 0 | 18,637 | 0 6 9 |
| 1,635 14 0 | .. | 704 10 0 | 16,396 12 0 | .. | 8,256 5 0 | 8,140 7 0 | .... | .. | 16,396 12 0 | 193,249 | 0 1 4 |
| 627 6 0 | .. | 69 9 6 | 5,396 11 0 | .. | 1,701 3 6 | 3,695 7 6 | .... | .. | 5,396 11 0 | 40,878 | 0 2 1 |
| 466 1 0 | .. | 311 8 6 | 9,170 4 6 | .. | 2,172 1 0 | 6,998 3 6 | .... | .. | 9,170 4 6 | 81,929 | 0 1 9 |
| 1,030 10 6 | .. | 460 12 0 | 17,070 14 1 | .. | 8,831 12 0 | 8,239 2 1 | .... | .. | 17,070 14 1 | 350,503 | 0 0 9 |
| 10,389 7 6 | .. | 4,704 7 3 | 86,650 1 6 | .. | 37,492 13 6 | 49,157 4 0 | .... | .. | 86,650 1 6 | 970,979 | 0 1 5 |
| 1,133 14 0 | .. | 313 4 3 | 9,243 4 8 | .. | 4,300 1 1 | 4,943 3 7 | .... | .. | 9,243 4 8 | 196,501 | 0 0 9 |
| 2,104 13 0 | .. | 290 2 0 | 28,768 10 6 | .. | 7,761 11 0 | 21,006 15 6 | .... | .. | 28,768 10 6 | 393,510 | 0 1 2 |
| 1,816 0 0 | .. | 522 4 0 | 7,481 3 0 | .. | 5,746 0 0 | 1,735 3 0 | .... | .. | 7,481 3 0 | 104,156 | 0 1 1 |
| 1,361 8 0 | .. | 289 12 0 | 9,571 4 0 | .. | 4,467 3 0 | 5,104 1 0 | .... | .. | 9,571 4 0 | 183,373 | 0 0 11 |
| 6,416 3 0 | .. | 1,415 6 3 | 55,064 6 2 | .. | 22,274 15 1 | 32,789 7 1 | .... | .. | 55,064 6 2 | 877,540 | 0 0 7 |
| 806 12 0 | .. | 288 0 0 | 12,094 9 0 | .. | 2,272 9 0 | 9,822 0 0 | .... | .. | 12,094 9 0 | 120,901 | 0 1 7 |
| 780 0 0 | .. | 36 3 0 | 7,374 11 0 | .. | 4,445 11 0 | 2,929 0 0 | .... | .. | 7,374 11 0 | 129,800 | 0 0 11 |
| 1,572 10 0 | .. | 207 0 0 | 10,374 3 0 | .. | 3,371 1 0 | 7,003 2 0 | .... | .. | 10,374 3 0 | 296,674 | 0 0 6 |
| 1,330 5 0 | .. | 50 0 0 | 4,715 4 0 | .. | 4,715 4 0 | .... | .... | .. | 4,715 4 0 | 13,677 | 0 4 9 |
| 4,489 11 0 | .. | 581 3 0 | 34,558 11 0 | .. | 14,804 9 0 | 19,7 4 2 0 | .... | .. | 34,558 11 0 | 561,052 | 0 0 11 |
| 39,097 2 1 | 4,201 12 | 50,537 13 10 | 4,28,462 8 0 | .. | 1,63,510 3 9 | 1,75,318 4 3 | 89,634 0 0 | .. | 4,28,462 8 0 | 3,560,648 | 0 1 11 |
| 3,205 6 2 | .. | | 21,655 6 2 | .. | 21,655 6 2 | .. | .... | .. | 21,655 6 2 | .. | .. |
| 42,302 8 3 | 4,201 12 | 50,537 13 10 | 4,50,117 14 2 | .. | 1,85,165 9 11 | 1,75,318 4 3 | 89,634 0 0 | .. | 4,50,117 14 2 | 3,560,648 | 0 1 3 |
| 623 9 0 | .. | 1,235 2 9 | 34,517 12 9 | .. | .... | .... | 34,517 12 9 | .. | 34,517 12 9 | 104,646 | 0 5 1 |
| | .. | | | .. | | | | .. | | 49,269 | .. |
| | .. | | | .. | | | | .. | | 15,624 | .. |
| 42,926 1 3 | 4,201 12 | 51,773 0 7 | 4,84,635 10 11 | .. | 1,85,165 9 11 | 1,75,318 4 3 | 1,24,151 12 9 | .. | 4,84,635 10 11 | 3,730,187 | 0 1 7 |

appointed.
District Board for Smallpox work.
was appointed by Malda District Board

STATEMENT No. III.

Showing particulars of vaccination performed by vaccinators attached to municipalities, dispensaries and other agencies in the Presidency of Bengal during the year 1928-29.

| Number. | Districts. | Number of cases primarily vaccinated. | | | | | | Number of cases re-vaccinated. | | | Percentage of successful cases in which results were known. | | Percentage of unknown cases to total cases. | | | | |
|---------|----------------------------|---------------------------------------|-----|---------|--------|---------|--------|--------------------------------|---------|-------|---|---------|---|-------|-------|------|-------|
| | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1 | Burdwan .. | 6 | 7 | 7,717 | 1,102 | 3,106 | 852 | 1,543 | 2,910 | 56 | 4,611 | 2,735 | 200 | 93.6 | 59.3 | 1.8 | 4.3 |
| 2 | Birbhum .. | 1 | 1 | 303 | 303 | 191 | 21 | 149 | 180 | .. | 112 | 46 | .. | 94.2 | 41.06 | .. | .. |
| 3 | Bankura .. | 3 | 3 | 3,972 | 1,324 | 2,202 | 337 | 1,548 | 2,152 | .. | 1,770 | 235 | 9 | 97.7 | 13.2 | .. | .5 |
| 4 | Midnapur .. | 7 | 8 | 3,756 | 469 | 1,631 | 222 | 1,047 | 1,548 | 12 | 2,125 | 1,138 | 50 | 94.9 | 53.5 | .. | 2.3 |
| 5 | Hooghly .. | 10 | 16 | 14,412 | 900 | 5,545 | 1,326 | 3,347 | 5,079 | 255 | 8,867 | 5,515 | 1,688 | 91.6 | 62.1 | 4.6 | 19.03 |
| 6 | Howrah .. | 2 | 10 | 11,927 | 1,192 | 4,683 | 1,775 | 2,293 | 4,241 | 140 | 7,244 | 2,868 | 322 | 63.4 | 39.5 | 2.09 | 4.4 |
| 7 | 24-Parganas | 25 | 31 | 24,153 | 779 | 14,360 | 3,779 | 7,979 | 13,826 | 162 | 9,866 | 4,999 | 984 | 96.2 | 50.6 | 1.1 | 9.9 |
| 8 | Caleutta .. | 1 | 60 | 106,152 | 1,769 | 23,877 | 13,051 | 9,290 | 22,849 | 556 | 82,275 | 15,723 | 17,693 | 95.6 | 19.1 | 2.3 | 21.5 |
| 9 | Nadia .. | 9 | 12 | 6,565 | 547 | 3,004 | 504 | 1,887 | 2,577 | 159 | 3,564 | 1,454 | 999 | 85.7 | 40.7 | 5.2 | 28.02 |
| 10 | Murshidabad | 6 | 7 | 6,566 | 938 | 2,337 | 721 | 1,361 | 2,142 | 15 | 4,235 | 1,469 | 203 | 91.6 | 34.6 | .64 | 4.7 |
| 11 | Jessore .. | 3 | 3 | 726 | 242 | 440 | 31 | 361 | 436 | 3 | 286 | 137 | 12 | 99.08 | 47.9 | .68 | 4.2 |
| 12 | Khulna .. | 3 | 3 | 1,795 | 598 | 965 | 277 | 604 | 944 | 1 | 830 | 231 | 92 | 97.8 | 27.8 | .10 | 11.08 |
| 13 | Rajshahi .. | 2 | 3 | 4,549 | 1,516 | 1,319 | 495 | 761 | 1,266 | 14 | 3,230 | 814 | 851 | 95.9 | 25.2 | 1.06 | 26.3 |
| 14 | Dinajpur .. | 1 | 1 | 7,602 | 7,602 | 1,132 | 266 | 631 | 1,126 | .. | 6,470 | 3,014 | 865 | 99.4 | 46.5 | .. | 13.3 |
| 15 | Jalpaiguri .. | 1 | 1 | 1,093 | 1,093 | 467 | 322 | 123 | 467 | .. | 626 | 172 | 79 | 100 | 27.4 | .. | 12.6 |
| 16 | Darjeeling .. | 2 | 2 | 26,928 | 13,464 | 1,807 | 1,020 | 476 | 1,737 | 70 | 25,211 | 6,662 | 8,527 | 96.2 | 26.4 | 3.8 | 33.8 |
| 17 | Rangpur .. | 2 | 2 | 2,129 | 1,064 | 929 | 101 | 731 | 891 | 10 | 1,200 | 539 | 139 | 95.9 | 44.9 | 1.08 | 11.5 |
| 18 | Bogra .. | 2 | 4 | 7,829 | 1,957 | 772 | 380 | 281 | 741 | 6 | 7,057 | 989 | 2,771 | 96.1 | 14.01 | .78 | 39.2 |
| 19 | Pabna .. | 2 | 2 | 3,953 | 1,976 | 2,023 | 512 | 1,172 | 1,871 | 16 | 1,930 | 694 | 115 | 92.4 | 35.9 | .79 | 5.9 |
| 20 | Malda .. | 3 | 5 | 8,303 | 1,661 | 957 | 353 | 489 | 860 | 13 | 7,349 | 2,082 | 1,135 | 89.8 | 28.3 | 1.3 | 15.4 |
| 21 | Dacca .. | 2 | 7 | 21,942 | 3,134 | 7,129 | 2,153 | 3,618 | 5,604 | 281 | 14,937 | 4,574 | 2,954 | 78.6 | 30.6 | 3.9 | 19.7 |
| 22 | Mymensingh | 9 | 8 | 6,391 | 799 | 2,534 | 215 | 1,768 | 2,174 | 198 | 3,857 | 1,105 | 662 | 85.1 | 28.6 | 7.7 | 17.1 |
| 23 | Faridpur .. | 3 | 3 | 2,530 | 843 | 1,683 | 231 | 1,177 | 1,554 | 16 | 860 | 127 | 180 | 92.3 | 14.7 | .95 | 20.9 |
| 24 | Bakarganj .. | 6 | 6 | 4,932 | 822 | 2,074 | 347 | 1,071 | 1,946 | 68 | 2,858 | 1,691 | 297 | 93.8 | 59.1 | 3.2 | 10.3 |
| 25 | Chittagong | 2 | 5 | 6,157 | 1,231 | 1,436 | 209 | 973 | 1,277 | 43 | 4,721 | 1,062 | 900 | 88.9 | 22.4 | 2.9 | 19.06 |
| 26 | Noakhali .. | 1 | 1 | 988 | 988 | 382 | 13 | 295 | 347 | 17 | 606 | 247 | 147 | 90.8 | 40.7 | 4.4 | 24.2 |
| 27 | Tippera .. | 3 | 3 | 3,603 | 1,201 | 1,885 | 311 | 1,179 | 1,595 | 22 | 1,836 | 556 | 379 | 84.6 | 30.2 | 1.1 | 20.6 |
| | Total | 117 | 214 | 296,973 | 1,388 | 88,870 | 29,824 | 46,154 | 82,340 | 2,133 | 208,533 | 60,878 | 42,253 | 90.6 | 29.1 | 2.3 | 20.2 |
| | Vaccinations performed by— | | | | | | | | | | | | | | | | |
| 28 | Railways .. | .. | .. | 21,170 | .. | 6,404 | .. | .. | 4,620 | 34 | 14,766 | 9,219 | 554 | 72.1 | 62.4 | .53 | 3.7 |
| 29 | Steamers .. | .. | .. | 1,879 | .. | .. | .. | .. | .. | .. | 1,879 | .. | 1,879 | .. | .. | .. | 100 |
| 30 | Tea gardens .. | .. | .. | 33,067 | .. | 9,675 | .. | .. | 9,012 | 280 | 23,415 | 11,321 | 5,534 | 93.1 | 43.3 | 2.8 | 23.6 |
| 31 | Factories .. | .. | .. | 29,947 | .. | 7,930 | .. | .. | 7,463 | .. | 22,017 | 7,615 | .. | 94.1 | 34.5 | .. | .. |
| 32 | Dispensaries .. | .. | .. | 27 | .. | 8 | .. | .. | 7 | 1 | 19 | 12 | 7 | 87.5 | 63.1 | 12.5 | 36.8 |
| 33 | Jails .. | .. | 55 | 31,299 | 569 | 76 | .. | .. | .72 | 2 | 31,223 | 15,552 | 3,328 | 94.7 | 49.8 | 2.6 | 10.6 |
| | GRAND TOTAL | 117 | 269 | 414,362 | 1,541 | 112,963 | 29,824 | 46,154 | 103,514 | 2,450 | 301,852 | 104,597 | 53,555 | 90.02 | 34.6 | 2.1 | 19.6 |

COMPARATIVE STATEMENT No. IV

Showing the number of persons primarily vaccinated and the number of those persons who were successfully vaccinated in each of the under mentioned official years.

Persons primarily vaccinated.

| Establishment. | 1919-20. | | 1920-21. | | 1921-22. | | 1922-23. | | 1923-24. | | 1924-25. | | 1925-26. | | 1926-27. | | 1927-28. | | 1928-29. | | |
|---|---------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|-----------|
| | Total number. | Number successfully vaccinated. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | |
| Government | 5,646 | 5,581 | 6,504 | 6,432 | 6,489 | 6,404 | 6,640 | 6,516 | 5,890 | 5,781 | 7,337 | 7,273 | 8,675 | 8,639 | 6,810 | 6,749 | 6,151 | 6,003 | 7,846 | 7,771 | |
| Municipalities | .. | 114,722 | 110,026 | 68,592 | 66,133 | 76,194 | 73,253 | 79,473 | 75,966 | 78,402 | 74,734 | 102,119 | 97,918 | 91,550 | 86,961 | 96,813 | 90,248 | 82,512 | 78,521 | 88,532 | 82,340 |
| District Boards (Paid) | 476,163 | 462,171 | 602,879 | 581,886 | 796,737 | 770,282 | 1,285,340 | 1,232,857 | 1,486,827 | 1,430,198 | 1,529,956 | 1,477,762 | 1,599,810 | 1,543,133 | 1,621,173 | 1,546,628 | 1,815,000 | 1,709,736 | 1,928,327 | 1,785,592 | |
| Dispensaries, Rail- ways, Tea, Gardens, Factories and Jails | 13,893 | 12,590 | 7,892 | 7,451 | 5,793 | 5,294 | 7,038 | 6,017 | 13,573 | 12,220 | 13,908 | 12,047 | 19,756 | 18,016 | 15,513 | 14,032 | 21,938 | 20,455 | 24,070 | 21,174 | |
| Work done by Lic. nsed vaccinators | 1,031,025 | 1,006,245 | 728,570 | 708,862 | 378,464 | 367,079 | 144,210 | 140,775 | 3,053 | 2,570 | .. | .. | 29,529 | 28,827 | .. | .. | .. | .. | .. | .. | |
| Total | .. | 1,641,449 | 1,596,613 | 1,414,437 | 1,370,764 | 1,203,677 | 1,222,312 | 1,522,701 | 1,462,131 | 1,587,745 | 1,525,503 | 1,653,320 | 1,595,000 | 1,749,320 | 1,685,516 | 1,740,309 | 1,657,657 | 1,925,601 | 1,814,715 | 2,048,775 | 1,896,877 |

STATEMENT No. V.

Showing particulars of vaccination verified by the Inspecting Officers during the year 1928-29.

| District. | Total number of persons vaccinated. | Percentage of inspection to total number vaccinated. | | | | | | | | | |
|--|-------------------------------------|--|----------|---|----------|--|---|---|---------------|--|--------------|
| | | By Assistant Director of Public Health. | | | | | By Civil Surgeons and District Health Officers. | | | | |
| By Assistant Superintendents of Vaccination and Rural Sanitary Inspectors and Assistant Health Officers. | | By Municipal Superintendents of Vaccination and Municipal Sanitary Inspectors. | | By Civil Surgeons and District Health Officers. | | By Assistant Directors of Public Health. | | By Civil Surgeons and District Health Officers. | | By Assistant Directors of Public Health. | |
| Primary. | Re-Vacc. | Primary. | Re-Vacc. | Primary. | Re-Vacc. | Primary. | Re-Vacc. | Primary. | Re-Vacc. | Primary. | Re-Vacc. |
| urdwan | 64,670 | 57,074 | 5,701 | 2,882 | 1,262 | 1,917 | 30,689 | 22,468 | 11,519 | 1,519 | 20 |
| rbham | 30,726 | 30,398 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| nkura | 43,819 | 24,838 | 431 | 549 | 863 | 179 | 5,301 | 2,012 | 1,446 | 1,446 | 23 |
| ndapur | 97,717 | 17,362 | .. | .. | 1,604 | 572 | 905 | 1,446 | 1,446 | 68,04 | 23 |
| roughly | 29,244 | 33,316 | .. | .. | 8,758 | 634 | 2,395 | 3,374 | 6,210 | 6,210 | 21 |
| owrah | 31,383 | 28,641 | .. | .. | 2,252 | 558 | 1,099 | 3,840 | 17,206 | 17,206 | 12 |
| -Parganas | 123,203 | 80,034 | .. | .. | 805 | 174 | 4,949 | 1,892 | 28,531 | 8,093 | 1 |
| leutta | 23,877 | 82,275 | .. | .. | 15,521 | 22,426 | 1,163 | 14,419 | 7,102 | 7,102 | 1 |
| dia | 58,688 | 57,187 | .. | .. | 113 | 66 | .. | .. | .. | .. | 1 |
| urshidabad | 57,791 | 31,306 | .. | .. | 78 | 322 | 1,043 | 1,755 | 20,766 | 78,533 | 1 |
| ssore | 43,151 | 13,620 | .. | .. | 1,029 | 564 | 70 | 39 | 10,941 | 4,494 | 1 |
| ulna | 60,559 | 55,990 | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| ishabi | 25,777 | 13,5,862 | .. | .. | 504 | 1,123 | 140 | 524 | 7,305 | 10,019 | 1 |
| ajnpur | 86,111 | 72,649 | .. | .. | 4,512 | 4,871 | 916 | 4,125 | 13,100 | 6,151 | 1 |
| alparguri | 26,529 | 37,648 | .. | .. | 541 | 793 | 80 | 119 | 2,633 | 2,596 | 1 |
| arjeeling | 11,123 | 50,112 | .. | .. | 663 | 67 | 286 | 1,364 | 6,411 | 6,411 | 1 |
| angpur | 111,863 | 112,600 | .. | .. | 19,555 | 8,597 | 440 | 410 | 59,434 | 34,474 | 1 |
| ogra | 31,690 | 50,791 | .. | .. | .. | 579 | 6,328 | 6,163 | 3,723 | 3,723 | 1 |
| alna | 59,689 | 57,836 | .. | .. | .. | 485 | .. | .. | .. | .. | 1 |
| alda | 30,725 | 47,685 | .. | .. | .. | .. | 3,000 | 9,000 | 9,000 | 9,000 | 1 |
| alca | 149,346 | 149,527 | .. | .. | .. | 1,357 | 1,234 | 1,234 | 1,234 | 1,234 | 1 |
| ymensingh | 22,180 | 255,149 | .. | .. | .. | .. | 1,196 | 1,196 | 1,196 | 1,196 | 1 |
| ridpur | 67,562 | 95,130 | .. | .. | 1,987 | 885 | 1,997 | 1,974 | 1,974 | 1,974 | 1 |
| arkarganj | 168,707 | 44,223 | .. | .. | .. | .. | 4,229 | 785 | 353 | 106 | 1 |
| nittagong | 84,527 | 108,925 | .. | .. | .. | .. | 4,325 | 48 | 145 | 464 | 1 |
| oakhali | 89,640 | 149,543 | .. | .. | 1,411 | 314 | 186 | 152 | 152 | 152 | 1 |
| ppera | 136,038 | 248,298 | .. | .. | 350 | 50 | 522 | 490 | 17,033 | 21,169 | 1 |
| nittagong Hill Tracts | 7,846 | 11,758 | .. | .. | .. | .. | .. | .. | 2,918 | 4,154 | 1 |
| ailways, Steamers, Factories, Dispensaries and Tea Gardens | 23,994 | 62,096 | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Total | 2,048,775 | 3,227,629 | .. | .. | .. | .. | .. | .. | 60,078 | 35,967 | 1.1 |
| | | | .. | .. | .. | .. | .. | .. | 60,772 | 39,772 | 1.1 |
| | | | .. | .. | .. | .. | .. | .. | 66,3 | 562,034 | 2.9 |
| | | | .. | .. | .. | .. | .. | .. | 66,1 | 66,1 | 2.9 |
| | | | .. | .. | .. | .. | .. | .. | 66,3 | 324 | 36.7 |
| | | | .. | .. | .. | .. | .. | .. | 66.3 | 66.3 | 59.05 |

STATEMENT No. VI

Showing, side by side, the ratios per mille of population of deaths from small-pox and the number of successful vaccinations during the ten years ending 1928-29.

STATEMENT No. VII.

Showing the protection afforded to infants in each town in the Presidency of Bengal during the year 1928-29.

| District. | Town | Number of births during the year. | Number of deaths amongst children under one year during the year. | Number of successful vaccinations on children under one year during the year ending 31st March 1929. | Date of extension of Vaccination Act to town. |
|-------------|----------------------------------|-----------------------------------|---|--|--|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Burdwan | Burdwan .. | 281 | 32 | 162 | 1st July 1883. |
| | Kalna .. | 192 | 30 | 103 | 1st " " |
| | Katwa .. | 81 | 11 | 77 | 1st " " |
| | Dainhat .. | 83 | 7 | 74 | 1st " " |
| | Raniganj .. | 373 | 53 | 204 | 1st " " |
| | Asansol .. | 474 | 74 | 232 | 14th September 1910. |
| | Total .. | 1,484 | 207 | 852 | |
| Birbhum | Suri .. | 125 | 16 | 21 | 1st July 1881. |
| Bankura | Bankura .. | 442 | 44 | 204 | 1st July 1883. |
| | Vishnupur .. | 469 | 54 | 14 | 1st " " |
| | Sonamukhi .. | 340 | 51 | 119 | 6th June 1892. |
| | Total .. | 1,251 | 149 | 337 | |
| | | | | | |
| Midnapur | Midnapur .. | 548 | 27 | 97 | 1st July 1883. |
| | Ghatal .. | 360 | 32 | 75 | 1st " " |
| | Kharar .. | 104 | 13 | .. | 16th August 1889. |
| | Chandrakona .. | 141 | 35 | .. | 1st July 1883. |
| | Ramjibanpur .. | 146 | 15 | .. | 1st " " |
| | Khirpai .. | 79 | 16 | 9 | 1st " " |
| | Tamluk .. | 166 | 17 | 41 | 1st " " |
| | Total .. | 1,544 | 155 | 222 | |
| | | | | | |
| | | | | | |
| Hooghly | Hooghly-Chinsura .. | 864 | 164 | 337 | 1st September 1881. |
| | Bansberia .. | 91 | 16 | 17 | 1st July 1883. |
| | Arambagh .. | 131 | 34 | 19 | 11th February 1889. |
| | Serampur .. | 655 | 72 | 411 | 1st March 1883. |
| | Uttarpara .. | 192 | 24 | 74 | 1st April " |
| | Kotrung .. | 150 | 21 | 37 | 1st July " |
| | Baidyabati .. | 407 | 52 | 172 | 1st " " |
| | Bhadreswar .. | 339 | 61 | 161 | 1st " " |
| | Rishra-Konnagar .. | 388 | 53 | 83 | (It formerly formed a part of the Serampur Municipality.) |
| | Champdani .. | 340 | 30 | 15 | (It formerly formed a part of the Baidyabati and Bhadreswar Municipalities.) |
| | Total .. | 3,557 | 527 | 1,326 | |
| Howrah | Howrah .. | 4,861 | 1,374 | 1,589 | 1st April 1882. |
| | Bally .. | 385 | 39 | 186 | 1st October 1884. |
| | Total .. | 5,246 | 1,413 | 1,775 | |
| 24-Parganas | Total of the Burdwan Division .. | 13,207 | 2,467 | 4,533 | |
| | South Suburban .. | 877 | 138 | 745 | 1st October 1883. |
| | Tollyganj .. | 457 | 56 | 462 | 1st " " |
| | | | | | (It formerly formed a part of the South Suburban Municipality.) |

| District. | Town. | Number of births during the year. | Number of deaths amongst children under one year during the year. | Number of successful vaccinations on children under one year during the year ending 31st March 1929. | Date of extension of Vaccination Act to town. |
|------------------------|---|-----------------------------------|---|--|--|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 24 Parganas— concl. | Budge-Budge .. | 301 | 9 | 172 | 18th February 1902. |
| | Baranagar .. | 794 | 105 | 260 | 1st October 1883. |
| | Kamarhati .. | 386 | 32 | 196 | 1st „ „ (It formerly formed a part of the Baranagar Municipality.) |
| | Rajpur .. | 285 | 36 | 29 | 1st October 1883. |
| | Baruipur .. | 64 | 10 | 51 | 1st „ „ |
| | Jaynagar .. | 84 | 11 | 11 | 1st „ „ |
| | North Dum-Dum .. | 133 | 17 | 3 | 1st „ „ |
| | South Dum-Dum .. | 313 | 52 | 148 | 1st „ „ |
| | Khordah .. | 103 | 6 | 33 | 1st „ „ |
| | Barrackpur including Barrackpur Cantonment. | 188 | 14 | 45 | (They formerly formed parts of the South Barrackpur Municipality.) |
| | Panihati .. | 288 | 38 | 197 | |
| | North Barrackpur .. | 319 | 33 | 149 | 1st October 1883. |
| | Titagarh .. | 700 | 55 | 210 | 1st „ „ (It formerly formed a part of the South Barrackpur Municipality.) |
| | Garulia .. | 190 | 32 | 49 | 1st October 1883. (It formerly formed a part of the North Barrackpur Municipality.) |
| | Naihati .. | 365 | 46 | 94 | 1st October 1883. |
| | Halisahar .. | 93 | 13 | .. | 1st „ „ |
| | Kanchrapara .. | 306 | 12 | 3 | (They formerly formed parts of the Naihati Municipality.) |
| | Bhatpara .. | 1,237 | 157 | 360 | |
| | Barasat .. | 105 | 11 | 20 | 1st October 1893. |
| | Gobardanga .. | 51 | .. | .. | 1st „ „ |
| Calcutta | Basirhat .. | 664 | 89 | 339 | 1st „ „ |
| | Baduria .. | 173 | 8 | 126 | 1st „ „ |
| | Taki .. | 158 | 21 | 77 | 1st „ „ |
| | Total .. | 8,634 | 1,001 | 3,779 | |
| | Calcutta .. | 22,044 | 5,772 | 13,051 | 1880. |
| Nadia | Krishnagar .. | 386 | 32 | 80 | 1st October 1883. |
| | Nabadwip .. | 275 | 32 | 34 | 1st „ „ |
| | Ranaghat .. | 171 | 14 | 153 | 1st „ „ |
| | Birnagar .. | 75 | 18 | 27 | 1st „ „ |
| | Santipur .. | 618 | 63 | 45 | 1st „ „ |
| | Chakdaha .. | 83 | 8 | 36 | 28th January 1887. |
| | Kushtia .. | 117 | 11 | 19 | 1st October 1883. |
| | Kumarkhali .. | 71 | 14 | 70 | 1st „ „ |
| | Meherpur .. | 165 | 11 | 40 | 1st „ „ |
| | Total .. | 1,961 | 203 | 504 | |

| District. | Town. | Number of births during the year. | Number of deaths amongst children under one year during the year. | Number of successful vaccinations on children under one year during the year ending 31st March 1929. | Date of extension of Vaccination Act to town. |
|-------------|-----------------------------------|-----------------------------------|---|--|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Murshidabad | Berhampur .. | 507 | 81 | 112 | 1st October 1883. |
| | Murshidabad .. | 196 | 36 | 34 | 1st " " |
| | Jiaganj-Azimganj .. | 238 | 43 | 97 | 1st " " (It formerly formed a part of the Murshidabad Municipality.) |
| | Kandi .. | 195 | 24 | 241 | 1st October 1883. |
| | Jangipur .. | 344 | 14 | 111 | 1st " |
| | Dhulan .. | 246 | 22 | 126 | 26th June 1910. |
| | Total .. | 1,726 | 220 | 721 | |
| Jessore | Jessore .. | 138 | 5 | 19 | 1st October 1883. |
| | Kotchandpur .. | 67 | 8 | 8 | 1st February 1884. |
| | Maheshpur .. | 51 | 17 | 4 | 1st October 1883. |
| | Total .. | 256 | 30 | 31 | |
| Khulna | Khulna .. | 193 | 39 | 37 | 1st July 1887. |
| | Satkhira .. | 249 | 65 | 169 | 7th July 1883. |
| | Debhatta .. | 100 | 9 | 71 | 1st October 1883 |
| | Total .. | 542 | 113 | 277 | |
| | Total of the Presidency Division. | 35,163 | 7,339 | 18,363 | |
| Rajshahi | Rajshahi .. | 537 | 68 | 493 | 1st June 1881. |
| | Nator .. | 142 | 39 | 2 | 1st January 1881 |
| | Total .. | 679 | 107 | 495 | |
| Dinajpur | Dinajpur .. | 91 | 11 | 266 | 1st January 1887. |
| Jalpaiguri | Jalpaiguri .. | 336 | 14 | 322 | 1st January 1887. |
| Darjeeling | Darjeeling .. | 556 | 41 | 776 | 1st September 1884. |
| | Kurseong .. | 271 | 43 | 244 | 1st January 1887. |
| | Total .. | 827 | 84 | 1,020 | |
| Rangpur | Rangpur .. | 315 | 28 | 100 | 1st July 1881. |
| | Gaibandha .. | 110 | 4 | 1 | 20th November 1924. |
| | Total .. | 425 | 32 | 101 | |
| Bogra | Bogra .. | 97 | 16 | 372 | 1st January 1882. |
| | Sherpur .. | 63 | 14 | 8 | 1st October 1884. |
| | Total .. | 160 | 30 | 380 | |
| Pabna | Pabna .. | 198 | 30 | 196 | 1st February 1882. |
| | Sirajganj .. | 507 | 72 | 316 | 1st January 1887. |
| | Total .. | 705 | 102 | 512 | |

| Distric.. | Town. | Number of births during the year. | Number of deaths amongst children under one year during the year. | Number of successful vaccination on children under one year during the year ending 31st March 1929. | Date of extension of Vaccination Act to town. |
|-----------------------------------|---------------------------------|-----------------------------------|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Malda | English Bazar .. | 358 | 25 | 261 | 1st March 1883. |
| | Malda .. | 75 | 11 | .. | 1st April 1887. |
| | Na'vabganj .. | 457 | 60 | 92 | 12th May 1904. |
| | Total .. | 890 | 96 | 353 | |
| Dacca | Total of the Rajshahi Division. | | 4,113 | 476 | 3,449 |
| | Dacca .. | 4,224 | 1,045 | 2,001 | 1st July 1887. |
| | Narayanganj .. | 1,059 | 272 | 152 | 1st , , |
| | Total .. | 5,283 | 1,317 | 2,153 | |
| Mymensingh | Mymensingh .. | 496 | 96 | 21 | 1st October 1887. |
| | Mukttagacha .. | 99 | 15 | 23 | 1st , , |
| | Netrakona .. | 228 | 48 | 38 | 20th January 1890. |
| | Jamalpur .. | 507 | 78 | 2 | 1st October 1887. |
| | Sherpur .. | 578 | 35 | 48 | 1st , , |
| | Kishorganj .. | 222 | 33 | 61 | 1st , , |
| | Bajitpur .. | 150 | 31 | .. | 1st , , |
| | Tangail .. | 234 | 36 | 22 | 19th February 1890. |
| | Gouripur .. | 48 | 7 | .. | |
| | Total .. | 2,562 | 379 | 215 | |
| Faridpur | Faridpur .. | 216 | 38 | 118 | 1st October 1887. |
| | Madaripur .. | 504 | 53 | 70 | 1st , , |
| | Rajbari .. | 153 | 22 | 43 | 20th November 1924. |
| | Total .. | 873 | 113 | 231 | |
| Bakarganj | Barisal .. | 435 | 85 | 46 | 1st October 1887. |
| | Jhalakati .. | 55 | 12 | 1 | 1st , , |
| | Nalehiti .. | 17 | 1 | .. | 1st , , |
| | Pirojpur .. | 288 | 40 | 294 | 1st January 1890. |
| | Patuakhali .. | 90 | 14 | 6 | 25th January 1891. |
| | Bhola .. | 98 | 3 | .. | 8th November 1922. |
| | Total .. | 983 | 155 | 347 | |
| | Total of the Dacca Division. | | 9,701 | 1,964 | 2,946 |
| | | | | | |
| | | | | | |
| Chittagong | Chittagong .. | 813 | 160 | 167 | 1st April 1887. |
| | Cox's Bazar .. | 66 | 5 | 42 | 14th November 1892. |
| | Total .. | 879 | 165 | 209 | |
| | | | | | |
| Tippera | Comilla .. | 213 | 11 | 60 | 1st April 1887. |
| | Brahmanbaria .. | 701 | 96 | 167 | 1st , , |
| | Chandpur .. | 161 | 25 | 84 | 22nd July 1898. |
| | Total .. | 1,075 | 132 | 311 | |
| Noakhali | Noakhali .. | 138 | 25 | 13 | 1st April 1887. |
| Total of the Chittagong Division. | | 2,092 | 322 | 533 | |
| Total for the Presidency. | | 64,276 | 12,568 | 29,824 | |

PROVINCIAL STATEMENT A.

Showing the degree of protection afforded to infants during the year 1928-29.

| Districts. | Rural population among which vaccinations were performed. | Number of births during the year. | Mortality among infants under one year. | Surviving population under one year available for vaccination. | Number successfully vaccinated. | Proportion of persons successfully vaccinated per 1,000 of population as shown in column 5. | Proportion of persons successfully vaccinated per 1,000 of population during 1927-28. |
|------------------------------------|---|-----------------------------------|---|--|---------------------------------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Jalpaiguri | .. 921,749 | 31,056 | 5,942 | 25,114 | 12,659 | 504.1 | 419.6 |
| Nadia | .. 1,390,704 | 47,585 | 9,508 | 38,077 | 18,235 | 479 | 388.1 |
| Darjeeling | .. 254,045 | 9,324 | 1,454 | 7,870 | 3,656 | 464.4 | 404.6 |
| Malda | .. 955,830 | 31,845 | 4,577 | 27,268 | 12,529 | 459.4 | 479.1 |
| Murshidabad | .. 1,182,983 | 50,269 | 7,871 | 42,398 | 19,365 | 456.7 | 517.4 |
| 24-Parganas | .. 1,998,318 | 57,947 | 8,361 | 49,586 | 15,739 | 317.4 | 407.3 |
| Khulna | .. 1,421,116 | 48,032 | 8,465 | 39,567 | 12,256 | 309.7 | 377.5 |
| Dinajpur | .. 1,687,328 | 59,908 | 11,551 | 48,387 | 14,890 | 307.9 | 355.7 |
| Bankura | .. 961,487 | 36,431 | 6,083 | 30,348 | 8,923 | 294 | 193.02 |
| Pabna | .. 1,344,633 | 30,242 | 5,704 | 24,538 | 7,077 | 288.4 | 325.5 |
| Burdwan | .. 1,343,185 | 38,600 | 8,113 | 30,487 | 8,577 | 281.5 | 231.2 |
| Howrah | .. 778,893 | 21,821 | 3,610 | 18,211 | 4,978 | 273.3 | 280.8 |
| Rajshahi | .. 1,457,037 | 45,611 | 9,326 | 36,285 | 9,257 | 255.1 | 487.1 |
| Noakhali | .. 1,465,071 | 49,268 | 6,444 | 42,824 | 9,129 | 213.1 | 245.3 |
| Rangpur | .. 2,782,722 | 77,765 | 19,010 | 58,755 | 11,039 | 187.8 | 216.3 |
| Chittagong | .. 1,570,760 | 46,768 | 6,778 | 39,990 | 7,021 | 175.6 | 140.9 |
| Tippera | .. 2,678,627 | 68,135 | 9,013 | 59,122 | 10,243 | 173.2 | 238.8 |
| Birbhum | .. 838,655 | 30,674 | 5,752 | 24,922 | 4,272 | 171.4 | 188.5 |
| Jessore | .. 1,700,924 | 39,377 | 6,658 | 32,719 | 5,422 | 165.6 | 334.1 |
| Hooghly | .. 900,802 | 25,141 | 4,509 | 20,632 | 3,086 | 149.5 | 157.3 |
| Midnapur | .. 2,595,071 | 81,425 | 12,554 | 68,871 | 9,031 | 131.1 | 228.3 |
| Bogra | .. 1,032,300 | 28,113 | 5,817 | 22,296 | 2,895 | 129.8 | 137.1 |
| Dacca | .. 2,975,915 | 86,492 | 15,663 | 70,829 | 9,141 | 129 | 115.3 |
| Chittagong Hill Tracts | 173,243 | 5,127 | 913 | 4,214 | 366 | 86.8 | 138.1 |
| Mymensingh | .. 4,703,249 | 113,768 | 22,833 | 90,935 | 7,795 | 85.7 | 95.6 |
| Faridpur | .. 2,202,783 | 65,455 | 11,719 | 53,736 | 3,525 | 65.6 | 77.9 |
| Bakarganj | .. 2,563,849 | 78,331 | 13,178 | 65,153 | 2,050 | 31.4 | 41.2 |
| Total of the Rural circles. | 43,584,279 | 1,304,510 | 229,406 | 1,075,104 | 233,158 | 216.9 | 246.7 |
| Calcutta | .. 1,077,264 | 22,044 | 5,772 | 16,272 | 13,051 | 802.05 | 856.8 |
| Mufassal Municipalities. | 2,033,993 | 42,232 | 6,796 | 35,436 | 16,773 | 473.3 | 511.7 |
| GRAND TOTAL | .. 46,695,536 | 1,368,786 | 241,974 | 1,126,812 | 262,982 | 233.3 | 261.4 |

PROVINCIAL STATEMENT B.

Showing different kinds of lymph used and the percentage of success during the year 1928-29.

Primary vaccination.

Re-vaccination.

| No. | District. | With lanoline lymph. | | | | | | | | | | | | With glycerinated lymph. | | | | | | | | | | | | |
|-----|--------------|-------------------------|---------|---------|--------------------|---------|---------|--------------------|---------|---------|--------------------|---------|---------|--------------------------|---------|---------|--------------------|---------|---------|--------------------------|---------|---------|--------------------|---------|---------|--------------------|
| | | Direct from calf. | | | | | | Direct from calf. | | | | | | With lanoline lymph. | | | | | | With glycerinated lymph. | | | | | | |
| | | Unsuccessful. | | | Successful. | | | Unsuccessful. | | | Successful. | | | Unsuccessful. | | | Successful. | | | Unsuccessful. | | | Successful. | | | |
| | | Precentage of suc. | Unknow. | Unknow. | Precentage of suc. | Unknow. | Unknow. | Precentage of suc. | Unknow. | Unknow. | Precentage of suc. | Unknow. | Unknow. | Precentage of suc. | Unknow. | Unknow. | Precentage of suc. | Unknow. | Unknow. | Precentage of suc. | Unknow. | Unknow. | Precentage of suc. | Unknow. | Unknow. | Precentage of suc. |
| 1 | 2 | Burdwan | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 2 | Birbhum | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 3 | Bankura | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 4 | Midnapur | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 5 | Hooghly | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 6 | Howrah | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Total | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 7 | Parganas | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 8 | Calcutta | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 9 | Nadia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 10 | Murshidabad | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 11 | Jessore | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 12 | Khulna | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Total | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 13 | Rajshahi | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 14 | Dinajpur | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 15 | Jaiparguri | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 16 | Darjeeling | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 17 | Rangpur | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 18 | Bogra | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 19 | Pabna | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 20 | Malda | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Total | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 21 | Dacca | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 22 | Myrmecugh | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 23 | Faridpur | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 24 | Bakarganj | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Total | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 25 | Chittagong | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 26 | Noakhali | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 27 | Tippera | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | 28 | Chittagong Hill Tracts. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Total | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Railways | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Steamers | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Factories | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Tea Gardens | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | Dispensaries | .. | .. | .. | .. | | | | | | | | | | | | | | | | | | | | | |

GOVERNMENT OF BENGAL.

Local Self-Government.

Public.

—
CALCUTTA, THE 2nd APRIL 1930.

RESOLUTION—No. 1050 P. H.

Minister-in-charge: The Hon'ble Kumar Shib Shekhar Ray.

READ—

The Report of the Director of Public Health, the Sanitary Board and the Chief Engineer, Public Health Department, for the year 1928.

READ ALSO—

The fourteenth triennial report on vaccination in Bengal for the years 1926-27, 1927-28 and 1928-29.

1. **Public Health.**—(Statistical, Epidemiological and General Public Health Administration.)

Population.—For the purpose of this review the total population of Bengal, excluding the Chittagong Hill Tracts, is taken as 46,522,293 (1921 Census).

The vital statistics for the year 1928 taken as they stand show an increase of almost 1,00,000 in the number of births over those for the previous year, 1,375,680 as against 1,286,863 and practically stationary figures for deaths, 1,189,015 as against 1,189,370 in the previous year. On this basis the provincial birth rate rose from 27.7 per thousand in 1927 to 29.6 per thousand in 1928, as against the quinquennial average of 28.8; but remains the lowest provincial birth rate in India except that of Burma. The aggregate birth rate in rural areas (30.2) was nearly fifty per cent. higher than in urban areas (20.4), but no exact inference can be drawn from these figures as to industrial vital statistics as the towns include the

numerous rural townships in Bengal. The death rate for the whole province was 25.5 per thousand as against 25.6 per thousand in 1927.

The Director of Public Health has occasion to point out every year that these figures can only be taken as a collateral index to the true vital statistics and would estimate the margin of error to be as high as 27 per cent. The transfer of the duty of recording vital statistics to Union Boards has increased the Director's difficulties in obtaining these essential figures and even in the municipalities supervision over registration of births and deaths is far from adequate. No less than ten municipalities returned the quite impossible death rate of less than 10 per thousand. The vital statistics for the province must therefore be approached with some reserve until the Census of 1931 provides the opportunity of testing their results over the last decade. The decrease of population in Hooghly and Jessore districts continued; but there was an excess of births over deaths in twenty-two districts in the province.

There was a check in the progressive decrease of infantile mortality which has been a feature of the vital statistics in recent years. This figure which had fallen from 228.3 per 1,000 in 1919 to 178 per 1,000 in 1927 remained practically stationary in 1928 (178.1 per 1,000).

The Calcutta Corporation and the Dacca Maternity and Child-welfare Trust continued to give special attention to midwifery and to the care of infant life with excellent results. In Calcutta 7 maternity units were at work in charge of 5 Lady Health Visitors assisted by 22 nurses, against 5 in 1927. They attended 6,541 cases as compared with 4,748 in the preceding year and the death rate during the first ten days of infancy among the cases attended excluding still-births, was only 19.2 per mille as against 35.5 per mille in 1927, while the general mortality rate within the first week of infancy in the city was 116.9 per mille. In Dacca two maternity centres worked as before during the year and of 4,318 births registered in the city 1,381 were attended to by the centre staff. The rate of reported mortality within 10 days of infancy among the

cases attended to by the staff was 4.2 per cent. as against 9.62 per cent. among infants in the rest of the town.

Over a thousand dais were given elementary training by local bodies or associations with the help of Government grant, and the total number of Exhibitions and Baby Weeks was more than doubled (166 as against 67).

Cholera.—The year 1928 continued to show a rise in the curve for mortality from cholera with a rate for Bengal in excess of that of any other province in India and more than double the quinquennial average. The total number of deaths was 136,245 in 1928 against 118,377 in 1927, showing an increase of 16.0 per cent. As in the previous year, preventive measures taken comprised inoculation, disinfection of water-supplies, disinfection of infected houses and of the patients' clothes. Eighteen medical officers and temporary staff of 5 Sub-Assistant Surgeons and 100 Sanitary Inspectors were deputed to assist local bodies in checking outbreaks. Propaganda work was carried on by means of lectures and magic lantern demonstration given by the Government Publicity staff and the local sanitary officers. Special measures were taken to inoculate pilgrims for the Puri Rathajatra and the Ganga Sagar Mela.

There was a further increase in inoculations for cholera during the year under review. 2,304,457 cubic centimeters of cholera vaccine were issued during 1928 against 1,299,630 in 1927 and the number of inoculations performed rose to 1,941,023 from 781,872 in 1927. It is to be remembered that preventive inoculation is a new measure in Bengal so that high figures for cholera mortality are likely to go hand in hand with activity in inoculation against cholera until the practice is sufficiently widespread to be adopted beforehand in anticipation of an epidemic.

Small-pox.—Even in the case of small-pox the statistics for 1928 go to show that the ideal of preventive efficiency in which vaccination can preclude an epidemic is far from having been reached. A quinquennial epidemic which had been forecasted began in 1924. The curve in 1928 was still rising, with 43,558 deaths as against 42,514 in 1925, and 5,567 in 1924 the zero year; and the one district which attempted an organized campaign of mass vaccination (Malda) was that which returned the highest

ratio of small-pox mortality 3.27 per thousand. The reason is obvious. Intensity of preventive action still follows, rather than anticipates, an epidemic; and this feature is further illustrated by the statistics for vaccination in the province as a whole. During the year under review there were 5,281,419 vaccinations of which 2,052,217 were primary vaccinations and 3,229,202 re-vaccinations, successful vaccinations being 92.9 per cent. and 56.5 per cent., respectively. The number of successfully vaccinated children under one year was 262,982 against 281,727 in the previous year, while the total number of births, excluding infant deaths of 241,974 was 1,126,812 during the same period. Protection was therefore given to only about 24 per cent. of the surviving infants. This was due to the unwillingness of parents or guardians to have their children vaccinated under the age of one year.

The Director of Public Health reports that district boards are actively engaged in organising vaccination to counter the further epidemic anticipated and Government have recently drawn their attention to the necessity of taking special steps for the purpose.

Malaria and kala-azar.—In contrast to the increase in the two periodical epidemics to which this province is exposed it is satisfactory to find a very definite decrease in mortality both from malaria and kala-azar. Deaths from malaria were reported at 368,691 as against 429,143 in 1927 and 458,208 in 1926. Even after allowances are made for the inevitable vagueness of returns on which statistics are based a reduction of over 24 per cent. in two years in deaths from a disease which in its nature is not liable to the sharply recurring curves of small-pox and cholera does seem to give grounds for hope that the attention and expenditure devoted to this cause by the Public Health Department in the past few years are bearing fruit. Similarly in the case of kala-azar the decline which was noticed as a satisfactory symptom in last year's report still continued, 10,746 deaths being reported as against 11,855 in 1927. The total number of deaths from fever 752,007 as against 789,006 in 1927 represents a nondescript mortality, the importance of the figure for the purpose of statistics being chiefly in the fact that the decrease precludes any idea that mortality from malaria has been transferred to this head.

In reviewing the record of District Boards in 1928-29 the Ministry of Public Health had occasion to dwell on the progress and prospects of the scheme for establishing a rural health unit in charge of a sanitary officer in each police station, and it need only be mentioned here that in 1928 the total number of these units had risen to 272, a figure by now nearly doubled.

Public Health Engineering.—During the year 1928 the Chief Engineer formally made over to the Titagarh Municipality the sewerage works constructed at a total cost of Rs. 10,67,405 including a Government grant of Rs. 3,55,000. These works represent the first attempt to sewer an industrial municipality in the mill area and are likely to prove of much interest as attention turns towards the improvement of industrial health in the vicinity of Calcutta. Technically their most interesting feature is the introduction of the new process of actuated sludge, the possibilities of which for a small sewerage scheme of this kind are far-reaching. For the rest the activities of the Engineering Branch continued on a scale restricted by the general financial conditions.

The Naihati water-supply scheme was completed and the unfiltered water required for the sewerage system was provided at Dacca. Work was in progress on water works at Khulna, Comilla, Patuakhali, Faridpur, Pabna, Midnapore, Burdwan and Asansol.

Personal.—Dr. C. A. Bentley, C.I.E., and Mr. F. C. Griffin were in charge throughout the year of the respective offices of Director of Public Health and

Chief Engineer, Engineering Branch, and the Government of Bengal desire again to express their appreciation of their services.

By order of the Government of Bengal
[Ministry of Local Self-Government
(Public Health)],

C. W. GURNER,

Secretary to the Government of Bengal.

Nos. 1051-1061 P. H.

Copy of the Resolution [with copies of the reports] forwarded to (1) all Commissioners of Divisions for information and communication to all District Officers and all Chairmen of District Boards in their respective Divisions; (2) the Surgeon-General with the Government of Bengal; the Inspector-General of Prisons, and the Inspector-General of Police, Bengal; for information; (3) Director of Public Health, Bengal, the Chief Engineer Public Health Department, Bengal; and the Secretary to the Sanitary Board, Bengal, for information.

[] (1) and (2) only.

By order of the Government of Bengal
[Ministry of Local Self-Government
(Public Health)],

AMINUZZAMAN KHAN,

*Assistant Secretary to the Government
of Bengal.*

GOVERNMENT OF BENGAL.

Local Self-Government Department.

Public Health.

No. 1130 P.H.

FROM C. W. GURNER, Esq., I.C.S.,
Secretary to the Government of Bengal,

TO THE SECRETARY TO THE GOVERNMENT OF INDIA,
DEPARTMENT OF EDUCATION, HEALTH AND LANDS.

Calcutta, the 5th April 1928.

Annual Public Health Reports and Resolution for 1928.

Minister-in-charge: The Hon'ble Kumar Shib Shekhareswar Ray.

SIR,

I am directed to submit for the information of the Government of India copies of the reports noted below, together with a copy of the resolution recorded thereon :—

- (1) Report of the Public Health Department for 1928.
- (2) Triennial report on Vaccination in Bengal for the years 1926-27, 1927-28 and 1928-29.

I have the honour to be,

SIR,

Your most obedient servant,

C. W. GURNER,
Secretary to the Government of Bengal.

